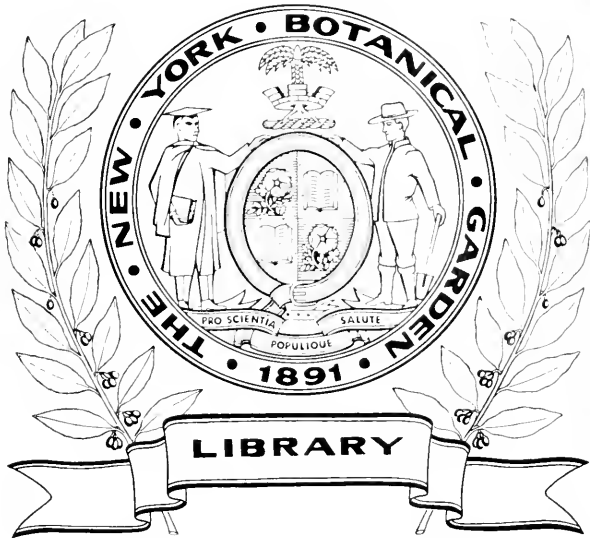


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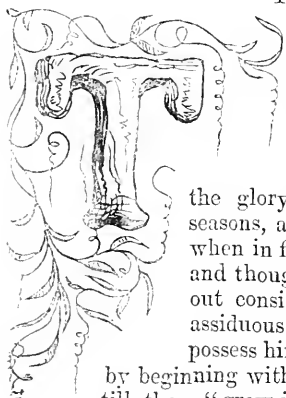
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THE FLORAL WORLD

AND GARDEN GUIDE.

JANUARY, 1863.

THE CAMELLIA.



THE Camellia is the most generally useful of all the greenhouse plants we possess, and should, therefore, be first thought of in selecting stock for a plant-house, and especially one that is to be used for purposes of pleasure. It is the glory of the conservatory, a noble object at all seasons, and unequalled for its brilliancy and grandeur when in flower. Happily it is most easily cultivated; and though specimen plants are not to be obtained without considerable outlay, small plants are cheap, and an assiduous cultivator may, in the course of a few years, possess himself of a collection of handsome specimens by beginning with small nursery stock, and waiting patiently till they "grow into money," which they are sure to do if favoured with a moderate amount of care. Botanically considered, the camellia is an interesting plant, because of its relation to the true Theas, from which is obtained the tea of commerce—the camellia being a member of the natural order of *Theads*, otherwise classed as *Ternströmiaceæ*. There are about a dozen species of camellia in cultivation; the principal are *C. eurycoides*, a small shrub with white flowers; *Kisii*, a shrub which attains the proportions of a tree, and with white flowers; *maliflora*, the apple-flowered camellia, with pink blossoms; *oliefera*, a tree with white flowers, and from the seed of which the Chinese extract a table-oil; *reticulata*, a small shrub with red flowers; *sasanqua*, a small shrub, of which there are several varieties, producing white and red blossoms; and lastly, *Japonica*, from which nearly all the showy varieties so highly prized as decorative plants have been derived.


Camellia Japonica was introduced to this country in 1739. It is a native of China and Japan, where it is mostly found in damp shady woods. In common with many other plants from those countries, it is quite hardy in this country, and previous to the winter of 1860-1 there were many

fine beds and borders of camellias in private gardens and nurseries about London and the southern counties, but that terrible winter destroyed thousands of open-air camellias, and so injured those that escaped destruction that it will probably be many years before we shall again see such displays of camellias in beds as we have seen in times past. We remember, in the spring of 1860, that in reply to a correspondent in this work, we said, "Out-door camellias are subject to too many risks to be recommended to the notice of amateurs generally;" and we were immediately invited by Messrs. Milne, of Vauxhall (the nursery is now being laid out for building purposes), to see some beds of camellias there, which were grand features of the establishment; but the very next winter cut them off, and their death was like a prelude to the extinction of the nursery itself, which, for time out of mind, had been the home of the camellia. These facts are instructive. If, in ordinary seasons, the camellia will live out of doors, every amateur who can afford it the protection of glass may grow it to perfection with little or no fire-heat. Planted against a north wall camellias make a magnificent appearance, but their blooms are frequently destroyed by those cruel frosts that are so common in this country in the early spring, and it is impossible to retard the blooming of the camellia beyond a certain time, as when the season has sufficiently advanced to set the sap moving, the first effect is the expansion of the flowers, and if then caught by frost the flowers melt to a pulp and fall to pieces.

We have named these few facts as affording to the beginner in floriculture some idea of the constitution of the plant, and we shall now proceed to state the points that are to be kept in view in the cultivation of the camellia, reserving what is necessary to be said as to its propagation for a future occasion.

CAMELLIA HOUSE.—Now and then we come across an ancient greenhouse, with high side-walls, rafters of unusual breadth, broad sash-bars, heavy plates, and very small glass with wide laps, and those laps so filled with dirt that what with the bad glass and the large proportion of wood-work, there is not much more than half the amount of light admitted which we obtain in a modern structure. If there are—as there most likely will be—a lot of old camellias in such a house, we shall be pretty sure to find them in marvellous health. One of the ugliest, darkest, and most dilapidated houses we ever saw was that of the late Mr. Mackie at Stoke Newington, who had some of the noblest specimens of double white camellias in the country, and which Mr. Bird secured when the stock was sold. Those plants were annually loaded with blooms in such profusion as to look like huge pyramids of snow, and the sale of the flowers was understood to produce their proprietor a good income without entailing a farthing expense beyond the rent of the ground on which the houses stood. We cannot wish to see greenhouses built in the old style in these days, but if a house is expressly for camellias, it need not be so fully lighted as for quick-growing, soft-wooded plants; and those who grow camellias in houses that admit of full daylight, must adopt some effectual method of screening them from the sun from the 1st of March to the 1st of September. Hartley's rough plate will be found invaluable for the top lights of a house in which camellias are to be grown, as this excludes sunshine, yet admits the ordinary daylight without interruption. As a rule a lean-to is preferable to a span-house for camellias, and if there is no method

of shading adopted in the original plan of the structure, the roof must be furnished with a roller blind, or tiffany must be put up in loose bag-like folds, thus—



Or the inelegant plan of smearing the glass with size and whitening must be adopted. This last is a rough and ready way of shading which costs nothing beyond the time of preparing it, and is very effectual.

The camellia house need not be very freely ventilated; during the early period of the year they do not want much air, and though they can scarcely have too much during summer and autumn, ventilators and doors may then be left open night and day, or the plants may be set outside to ripen the wood and perfect the blossom buds. Old greenhouses that are dark and defective in ventilation, and therefore unsuitable for such plants as erica and epacris, etc., may be made good use of for the culture of camellias. Though we have remarked above that camellias may be grown in unheated structures, it is far preferable to heat the house with hot-water pipes or a tank, so as to be able to raise the temperature to 60° during the severest frost, as we sometimes have the coldest weather of the whole year just as the first batch of camellias is coming into bloom, and in any case there should be the means of keeping out frost, which is never a benefit to the plants, though they can bear half a dozen degrees with impunity if the wood is ripe. We ourselves lost a house full of camellias on the night of the 24th and 25th of December, 1860 (who will ever forget *that* night), in a lean-to where, owing to the festive character of the season, the fire had been neglected, and the plants were suddenly subjected to 12° of frost, which caused the stems to split from head to foot, as if operated upon with a penknife. We shall never again, we trust, expose valuable plants to such a risk, and the mention of the fact may be a useful warning to others, to be at all times prepared for the worst possibilities.

WINTER TREATMENT OF CAMELLIAS.—We prefer to keep camellias under glass the whole year round, and are very much inclined to pronounce vigorously against putting them out of doors at all. But if it were imperative to keep them always under glass, many persons having but limited glass room would have to give them up altogether, and the plan of removing them to the open air is a very good compromise between the best and worst methods of treatment. Take them in doors the last week in September. If the house is still otherwise occupied put them in pits or frames, so that in some way or other there is glass over them. All they need for some time is to be kept regularly watered, never wet and never dry, safe from frost, but not to be stimulated by heat till it is required to push them into bloom.

BLOOMING THE CAMELLIA.—The first thing we consider necessary is to clean the foliage. However clean it may appear, we prefer to set a lad to work to sponge every leaf with tepid water; it is astonishing how exquisitely bright and green the leaves look after the process. As they are washed set them aside and remove a little of the top soil in the pots, not more than an inch, and supply its place with two inches of rotten dung and leaf-mould well chopped over. Remove the plants into a house where

they will have a temperature of 45° by night and 55° by day. After they have been there a week, raise the temperature to 50° by night and 60° to 65° by day, and make it a rule never to flower a camellia in a higher temperature than 65°. As the flowers open remove them to a house a few degrees cooler, or lower the temperature of the house they are in about 5°, which will prolong their beauty and *prevent them growing too soon*, for they cannot grow and bloom properly at one and the same time.

Camellias should be bloomed in batches, and, if needful, they may be had in bloom by means of a succession of plants *every day throughout the year*. But this is not desirable, as they only produce really fine flowers during the season between November and April. The selection of plants for summer is a matter of some importance where camellias are grown to any extent, as those that have been forced a month earlier than the usual time one season may be forced six weeks earlier the next season, and so on, the plants being prepared to start upon the application of the proper stimulus, through having finished their growth and gone to rest early the season previous. Those to force next year should be got into growth as early as possible, so as to be put out of doors early in June; they may then be brought in again at the end of August, be at once started for bloom and followed by succession plants, so as to keep up the display from November to the end of April.

SOIL FOR CAMELLIAS.—Silky yellow loam, full of fibre, one part; leaf-mould, half a part; fibry peat, or bog, half a part; silver-sand, quarter of a part. They will grow in peat alone, but are short lived. The top spit from a loamy pasture laid up twelve months and then mixed with a third part of leaf-mould is a good compost.

THE MAGIC RING.

THE object of this paper is to fix upon the minds of our readers an important principle of taste in gardening. The mere statement of that principle need not occupy more than a page or so; but it might then be read and forgotten, and no good purpose would be served. But by calling attention once more to my magic ring, I may be able to fix that principle in the reader's mind, and the gardeners of the land may hereafter be all the better for it. Past issues of the FLORAL WORLD will show that the old lawn plant, *Spergula pilifera*, after nestling among the mountains since the day of creation, found its way at last to Mr. Mongredien's garden at Forest Hill, where that magician of gardeners, Mr. A. Summers, made such wonderful pile velvet of it, that in 1859 Messrs. Henderson, of St. John's Wood, "brought it out" as a substitute for Turkey carpets, and in a very dull time the Floral World was aroused with a new idea. These pages will also show that the writer of this at once took the wonderful plant in hand, and mastered all the secrets of its growth and uses for the benefit of horticulture generally and the amusement of himself in particular. The readers of this work were informed of its behaviour in seed-pans, in store-pots, on the ground after being planted out too early, and after being planted again, when it grew and flourished, and made the first of the lawns after Mr. Mongredien's, in the garden of a "weed by the

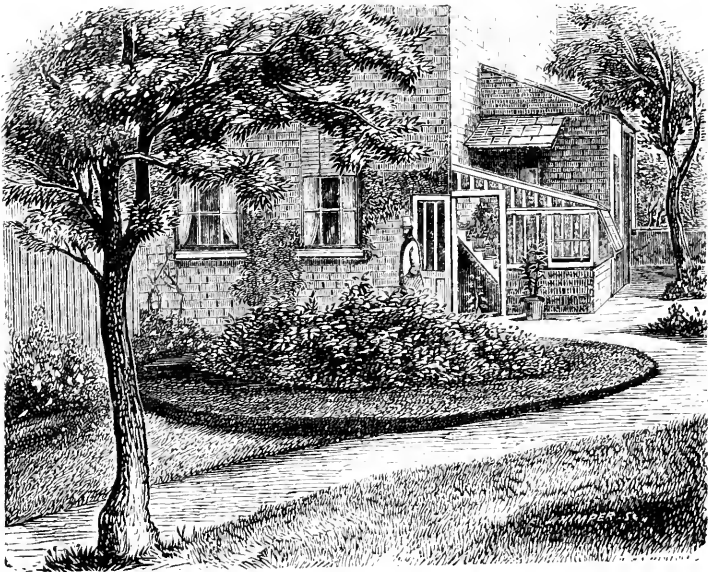
wall" at Stoke Newington. It was further reported that this specimen of *spargula* turf had been visited and criticised by various gardeners and nurserymen, from Mr. Veitch, at the top of the scale, to many worthy men at the bottom, whose judgment was no less equal to the task of deciding upon it than the horticultural grandees who had gone before. At that juncture many requests were forwarded to the writer to admit the public generally, and especially the readers of the *FLORAL WORLD*; but a cold and ungracious reply was given that it could not be done, and no one regretted that more than the cold and ungracious party whose avocations and circumstances did not allow of indulging in such a levee. But in the summer of 1862 a photographer was set to work in the garden at Newington, and the result was a series of pictures of some objects of interest. It had been resolved to sweep away the *spargula*; no, not sweep it away, but remove it to another spot. Not because it had failed, but *for the sake of change*, and for no other reason. It would not pay an experimental cultivator, whose first object is to obtain useful knowledge by the cultivation of plants, to devote an important space at the head of the garden to *spargula* after four years' trial had proved, in the words of Messrs. Henderson's original announcement, that "it forms an unbroken level of velvet-like surface, remaining uninjured in severe drought or intense cold, and its fertility in blossom during the month of July (and thence to October) is equally beautiful, being at that period studded over with myriads of low, compact, salver-shaped, snow-white blossoms," etc., etc., etc. So the *spargula* was removed, and appropriated to cover the sides of a bank on which are planted some choice conifers—the very same conifers that have been reported in these pages, as having been grown in pots for winter furnishing, and which, having become too large for the purpose, were turned out of pots to grow into trees on the bank, where, as required of them, they are doing their duty. But it was thought the readers of the *FLORAL WORLD* might be allowed to peep at that *spargula* lawn, which was in the form of a circle inclosing a bed of *rhododendron* species; and as the photograph was available for the purpose of presenting a picture to folks who now associate the writer and his labours with "auld lang syne" at their own firesides, the picture was engraved, and, presto! here it is.

This, then, is the magic ring. *Spargula* produced it by an incantation; and it has been the most interesting of all the subjects dealt with by the present possessor, and it has furnished material for the fullest accounts of *spargulas* and their uses which have hitherto appeared in the horticultural papers.

It is but right to say, in the first place, that though *Spargula pilifera* proved such a decided success on that circle, its near relative, *S. saginoides*, has proved far better. There are three of these turfing plants here on banks, namely, the two first-mentioned and *Sagina procumbens*. They are all good; the last is ugly when in bloom, but beautiful at all other times; but *sagina*, like *spargula*, is least particular about soil of any, and grows so rapidly that it may be trusted almost anywhere except on a bed of clay, to make a lawn in one season. Another point to be mentioned is that a *raised* platform, such as the magic ring, is the proper place to grow it on, and by a parity of circumstances the banks on which they are now placed to clothe the sloping sides are covered from top to bottom with the most beautiful verdure. So if there is a raised space in a garden

needing to be covered with the most refined verdure, plant it with *Spergula saginoides*, and keep it well rolled and weeded, and there will soon be a turf fit for the feet of a fairy.

Previous to 1859 the spot occupied by the magic ring was a steep slope of grass continued from the lawn below, and with a circular bed planted sometimes with roses, sometimes with fuchsias, and once with pampas grasses, which made a display in autumn worth a journey to see. When the spergula was started the thought occurred, why not make on that spot a grand feature? A circle was marked out for a peat-bed, and round that another circle of loam on a dead level so as to fall over by a sort of ramp on the grass at the lower side. The result was the effect represented in the picture. The spergula and the rhododendrons competed with each other and grew out of bounds, and for the sake of a change the first was removed in July last, and the circle planted with 240 Tom Thumb geraniums in a ring of seventy feet circumference. This present



winter the rhododendrons were taken up and seven huge plants appropriated to the border in the forecourt on the other side of the house; the bed was raised a foot higher by means of more Wanstead peat, and the outer circle to the same level by means of the loam taken out to make a peat-bed for the rhododendrons in the forecourt. The remaining rhododendrons were planted in the bed and filled it well, and the outside of the ring was faced all round with the largest burrs from the brick kiln, forming a massive ring eighteen inches above the level, so that if photographed now the picture would be "Hyperion to the satyr" already presented. What is to be done with it now? In the first place a stock of the new *Silver-edged Ivy* has been secured, and is in course of propagation to be planted next the burrs all round to make a glittering boundary line or silver ring, and which will be a lovely sight winter and summer. This new ivy is to be had generally in the trade, Mr. Salter

has a bed of it in his chrysanthemum house now; the plants secured for this ring were had from Messrs. Lucombe, Pince, and Co., of Exeter. Now, supposing a selection of bedders are wanted there will be no difficulty in finding them, and the writer would if pressed for time be content to sow one of those charming new dark *candytufts* which Messrs. Carter have introduced lately, or the crimson candytuft sent out three years ago by Messrs. Henderson, and follow the candytuft with verbenas put out in full bloom, or *Cranioisie* roses turned out of pots, or *Imperial Crimson Nosegay geraniums*, or *Coleus Verschaffelti* with *Golden Chain geranium* in Vandyke compartments. But the idea is to make the circle grand with foliage plants only, such as *Lonicera reticulata aurea* for a broad ring, and with *Gnaphalium lanatum* for a silver ring inside next the rhododendrons. This would be at its best in autumn, when the *Lonicera* acquires a deep fiery crimson hue. But these are speculations, and we are never to forget the distinction between what has been done and what may be done: the Past teaches, the Future only appeals to the imagination.

It was said just now that in this affair there was a principle involved. That principle can be explained in a word. The magic ring is the most decisive feature which the plan and size of the garden admits of. Half a dozen beds there, however beautifully kept, would have no grandeur about them, but this fine sweep, simple and severe as the true circle always is, gives a satisfaction to the eye, and proves at once that its possessor has a horror of trifling. In every garden there should be *at least one distinct feature*, as bold and as simple and as elegant as possible, and when that principle is viewed aright it will be the deathblow of the little intricacies that make some gardens like the dress of a harlequin with too many colours, and all out of place. Nothing like bold expressive forms; the eye loves to roam with freedom in reading out an idea, and if there be any one method of appropriating the ground immediately under the drawing-room better than another, it is without question the plan of a great circle raised above the level, and filled with plants worthy of such a position. If the reader will call to mind what he has seen of well-planned gardens, great and small, it will be seen that all the separate and independent objects of interest are made subservient to some one leading idea. It is so at Versailles, at Shrubland, Hampton Court, Kew, Sydenham, and Kensington. When we recall the scenes at Sydenham we think first of the terrace and next of the temples. In our remembrances of Kew that little geometric plot in front of the palm-house sparkles in the scene like a central Pleiad; it is the point you are aiming at, as you walk on admiring and questioning, and when you arrive at it you feel that you have accomplished something, and the feeling is akin to that of the traveller who at last pitches his tent at the foot of the chief of the Pyramids. So my magic ring is like Moses' serpent, which swallowed up the magicians' serpents—it swallows up all the other curves that lead to it and from it, and the glitter of its edging of silver-edged ivy interlacing among the dark blocks that support the soil is a satisfactory object from any point of view. Make such a circle, raise it eighteen inches, plant it all round with Irish ivy, and what a grand effect it will have if kept gay and bright with suitable occupants! The true circle is the source of all the lines of beauty, and it affords a proper opportunity for a vast breadth of one colour, and that gives a dignified air to the garden, and by the simplest rule of art fills the mind with an agreeable subject for contemplation; such, at least, is the suggestion of the Magic Ring.

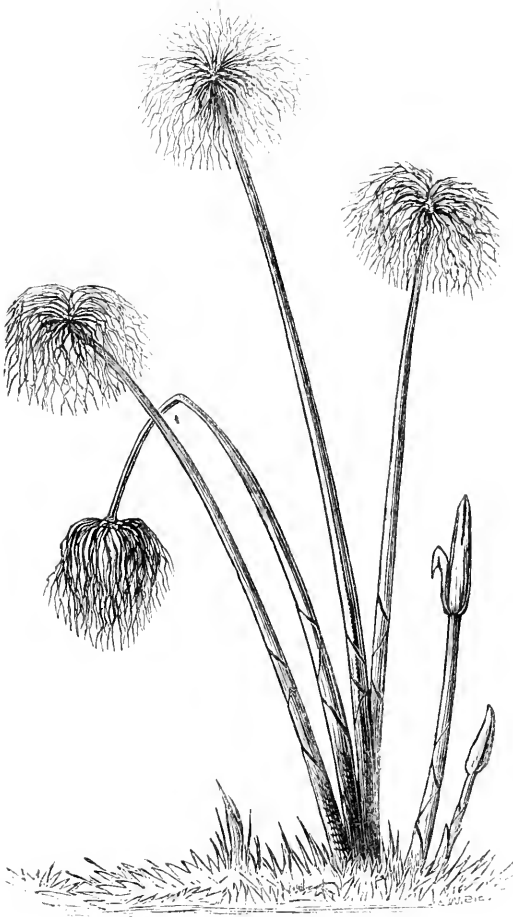
SHIRLEY HIBBERD.

PAPYRUS ANTIQUORUM.

THERE are several reasons which induce us to think that a page or two may be profitably devoted to a gossip upon this plant. In the first place it is a most graceful and elegant object,

far removed from the civilization of the present day. By it, too, one of the prophecies of Scripture has been wonderfully fulfilled.

Let us speak first of the plant



and not half so much cultivated as it deserves to be; and in the second place it has played a by no means inconspicuous part in the history of the world in the remote ages which are so

itself. Our sketch will give a very good idea of the appearance which it presents. The wand-like triangular stems support a globular head of finely divided, forking, long, green,

filaments, among which the little, inconspicuous, sedge-like spikes of flowers are produced. The stems, which are from four to six feet high, are not rigid, so as to stand perfectly erect, or half the beauty of the plant would be lost; but they droop gracefully, and bend before every breath of the summer zephyr. The plant grows naturally by the sides of rivers, with its roots immersed in the water; we have already said its stems are triangular, and one traveller asserts that these stems always present one of their angles to the course of the stream, as if to break the force with which the water would strike upon the plant if one side of the triangle were presented to it. This may, or may not, be true, we have never seen it growing in a state of nature, and therefore cannot affirm that it is true, nor can we deny it. These stems are thrown up by the creeping rhizome which spreads along the surface of the soil, and like all plants having a similar habit of growth it may readily be increased by division. Under cultivation it requires a stove-heat, but during the summer months might be removed to a conservatory without the slightest fear of its being injured. In the neighbourhood of Berlin we have seen it planted out of doors in summer, and a most beautiful object it made; but it is somewhat doubtful if the heat of our summers would be sufficient to allow of the same practice being carried out in England. We can easily fancy that where the conservatory is furnished with one or more vases kept gay with flowering plants, nothing could be found so suitable for the centre plant of such a vase as *Papyrus antiquorum*. It would make quite an original feature. Its culture is as simple as it is possible to conceive that of any plant. It should be potted in a compost of rough loam and peat, with a little dung or leaf-mould, well rotted, mixed with it. In summer it cannot be kept too moist, it may even stand in a pan of water, and when the pot is full of roots a little weak liquid manure is very beneficial, as we can, from experience bear witness. During winter it need not be kept more moist

than ordinary stove plants. It is at least sixty years ago since this plant first found a home in our gardens, but it is not common for all that; its great beauty and elegance have been overlooked, and probably there are not half a dozen nurserymen in the country who could supply it. Those who have once seen it well grown must have been charmed by it; it requires only to be known to be appreciated. When we recollect how long it has been in the country without having become generally cultivated, we must also keep in mind that it is only within the last five or six years that plants have been grown for the sake of their foliage, or for their graceful habit; showy flowers were the only things cared for before that time.

Papyrus antiquorum was formerly very common in Egypt, by the banks of the Nile, it is in fact the "bullrush," so often mentioned in Holy Writ; it also occurs under the name of the paper-reed. The following extract concerning this plant is from a work entitled "Letters from the East," by Mr. W. A. Bloomfield, a botanist of no mean repute, who died while on his way home from Egypt and the Holy Land. The extract shows that the denunciations against Egypt, made by Isaiah, have been fulfilled even to the minutest detail. The author says, "The Lotus flower and Papyrus have both disappeared from the rivers and marshes of Egypt; the rumour of the Papyrus still lingering in the vicinity of Lake Menzalet, proving, it seems, a mistake, another species having been confounded with the true Papyrus of antiquity, which is *P. antiquorum* (*Cyperus Papyrus* of Linnæus). Poor Egypt! How has she been shorn of all her boasted splendours, even to her very garlands of Lotus flowers; and how literally have the words of the Prophet been fulfilled in the single and apparently unimportant, as in so many more remarkable and weighty instances!

"And they shall turn the rivers far away; and the brooks of defence shall be emptied and dried up: the reeds and flags shall wither. The paper reeds by the brooks, by the mouth of the brooks, and every

thing sown by the brooks, shall wither, be driven away, and be no more." (Isaiah, xix. 6, 7.)

In like manner the Lotus (*Nelumbium*) once so celebrated, and so constantly represented in Egyptian paintings, and popular as an architectural ornament, has quite disappeared from the Nile.

Papyrus antiquorum is a native of Syria, Calabria, Sicily, Egypt, and Abyssinia. Its name in Syria is "Babeer" whence in all probability we, and most of the European languages obtain our name for paper; the white pulpy stems of this plant being manufactured into the Papyrus scrolls upon which all the learning of the Egyptians as well as that of the Greeks and Romans, was written. I can find no description of the manner in which the Papyrus was prepared

for this purpose, but I am inclined to think that the stems were peeled and then cut into thin longitudinal slices which were laid crosswise upon each other, and then beaten until they made a substance not much unlike paper.

The stems of this plant are also twisted into ropes; and another species of the same genus (*P. corymbosus*) is employed, according to Lindley, for making the mats so much used in India for covering the floors of rooms, and which are also much esteemed in Europe. Bruce speaks of Papyrus being used for making boats; I think that bundles of the stems are more likely to be used as floats, but no modern traveller that I am aware of has confirmed this statement. Specimens of the Papyrus may be seen at Kew and the Crystal Palace.

ON PROTECTING TENDER ROSES.

"Frost is a fatal enemy to roses, but damp is a much more fataler," was once remarked to me by a jobbing gardener, and the man's double comparative was more sound in fact than in grammar. There is no doubt that where frost stay its thousands, damp slays its tens of thousands, particularly among young plants on their own roots during the cold spring months. The worst of it is that it is difficult to know what protection to employ against these enemies, as what is effectual in the one case, too often produces the opposite evil. During my experience in the climate north and east of London, I have found none of the modes usually advocated satisfactory in their effect. Sawdust, cinder-ashes, moss, or hay, round the roots of the dwarfs, hold the wet, and almost invariably produce mildew; and haybands or fern round the heads of tender standards, as certainly generate a premature growth, which is cut off, when the protection is removed, by the cold early winds, to the ruin of the first blossoms, and often to the detriment of the plant for the whole season. After a good

deal of pondering over the matter, I have determined to adopt the following plan, which I promulgate for the benefit of brother rose-growers, who I hope, will participate in the experiment, and make known the result.

I propose obtaining some conical caps, in shape like a grocer's sugar-bag, of various sizes, of that common rush material of which fish baskets are made. These are intended to be put over the heads of standards, and removed when the weather requires it, even tying them close round the stocks if necessary. They will not cost more than a penny apiece. I should use them in the same way to the dwarfs, placing in addition a few inches of charcoal dust round the collars of the roots. These caps will be taken off when the condition of the atmosphere permits, affording the plants all the bracing advantages of exposure to favourable atmospheric conditions with protection from cold winds and frosts. As soon as the season admits, the coverings will be entirely removed, and the charcoal will be stirred in, to the manifest improvement of the borders. With re-

spect to a bed of Teas and Bourbons, I propose affixing at short distances, round the sides, some stout square posts of wood, from which hoops of strong cane will stretch across. A thickness or two of tanned netting will be thrown over, and this, with the charcoal mulching, will, I think, effectually exclude the most inclement frosts. I am by no means certain that calceolarias, geraniums and the like subjects, could not be preserved during ordinary winters in a similar manner, assisted by a warm mulching of old dung or cocoa-nut refuse, to help start them in the spring. If so, what immense saving of time and trouble in wintering such stock, and with that view it is worth making the experiment. This, however, is only an idea for the consideration of others. [It would not answer.]

With respect to roses I am more and more determined to limit the number of sorts. The real scientific florist remarks, "I have so many of such a (favourite) sort," not, "I have so many sorts." I have now experimented upon about 200 varieties, and if I had not the plants in my possession, I should reduce them to one-third in number, perhaps fewer. Mr. Hibberd justly remarks that S. de la

Reine d'Angleterre is not a perpetual in the neighbourhood of London, and this is true of many other H.P.'s in unfavourable situations; besides several very beautiful kinds of loose character and colour, though growing and blooming freely; in uncongenial climates, *reverting*, I think, to the varieties from which they were originally raised. Would not this idea open an interesting field for investigation? I am disposed to believe that not a few of the novelties sent out by the French raisers are really mere sports, and not veritable seedlings. [That would be nothing against them.] For instance, Oriflamme de St. Louis, and Triomphe d'Amiens, are surely only sports from our favourite the General; and Gloire de Chatillon (1862) from Mad. Masson; Mad. Campbell is certainly a sport from La Reine. All these may be seen at times growing respectively, side by side, in the same plants. Mad. Gerard will also come B. Prevost, and I have seen Pauline Lanzezeur very like to Jules Margottin, though less robust in growth. I throw out these suggestions with some diffidence, being at all times open to correction by more skilful and practised growers than myself. W. D. PRIOR.

Homerton, Nov. 6th.

USEFUL NOVELTIES.

SELECTED FROM THE LIST OF NEW PLANTS IN THE "GARDEN ORACLE," 1863.

ACHIMENES MAUVE QUEEN.—A fine and showy large-flowered variety, flowers three inches across, of a mauve-purple, somewhat redder about the eye, and thickly spotted below the eye with crimson dots on yellow ground. Flowers larger than those of longiflora major, more richly marked about the eye, and of remarkable substance, rendering it a most desirable addition to this family.—Mr. A. Parsons.

ALOCASIA ZEBRINA.—A fine Arad from the Philippine Islands, introduced by Mr. J. G. Veitch. A stout-growing plant of bold habit, thick green broadly sagittate erect leaves,

on stout erect stalks, mottled and banded with dark green on a pale green ground, curious and handsome.—Messrs. Veitch.

AUCUBA JAPONICA PICTURATA, Cornaceæ.—A very handsome variety, with the leaves marked by a large irregular yellowish central blotch, the rest of the surface being green.—Mr. Standish.

CALCEOLARIA ERICOIDES.—A remarkably distinct-looking species from Chili, quite resembling a heath in its general features. From the root proceed numerous vigorous shoots a couple of feet in height, and quite erect; these are furnished with small

semiterete leaves, clothed with short stiff pubescence, and produce along their whole length numerous short branchlets of an inch and a-half long. Upper part of stems freely furnished with flowers which form a kind of compound raceme. Flowers of a lemon-yellow, narrow oblong, almost squared off at the end, having an open elongated mouth, but folded back, the lower lip against the upper, so as to close the opening.—Messrs. Veitch and Son.

CLERODENDRON THOMSONIÆ, Verbenaceæ.—A hothouse climber, of rather slender habit and moderate growth, bearing oblong ovate acute leaves, and cymose panicles of remarkably handsome flowers, consisting of a large white inflated five-angled calyx, with the crimson-scarlet corolla just protruding from the points of its segments. Lately introduced from Old Calabar.—Messrs. Jackson and Son, Kingston.

DELPHINIUM BICOLOR GRANDIFLORUM.—A showy variety, with large flowers, in which the sepals are of a dark blue, and the petals creamy-white, contrasting strongly with the darker colour surrounding them.—Messrs. Downy, Laird, and Laing.

EUONYMUS RADICANS FOL. VARIEGATIS, Celastraceæ.—A pretty little shrub received from Japan, of neat habit, with small ovate leaves of a bright green, blotched and margined with silvery white, and perfectly hardy in this country. Its dwarf habit will render it useful for forming edgings to beds, and covering banks and rockwork.—Messrs. Veitch and Son.

EURYA ANGUSTIFOLIA, Ternstro-miaceæ.—Provisionally so named. A compact bush, with narrow or lanceolate acuminate leaves, broadest above the centre, and having an irregular edge of cream colour. A distinct plant of ornamental character, and supposed to be hardy.—Mr. Standish.

EURYA LATIFOLIA VARIEGATA.—A Japanese shrub of good and compact habit, and remarkable for the great beauty of its fine variegated foliage. It has acuminate leaves of a dark green colour, finely edged and blotched with white, and flushed with

fiery orange-red. One of the most ornamental shrubs of recent introduction. Sent from Japan by Mr. J. G. Veitch.—Messrs. Veitch and Son.

FICUS COOPERI (Veitch), Moraceæ.—A distinct and beautiful foliaged greenhouse plant, brought from New South Wales by Sir Daniel Cooper, after whom it is appropriately named. It is of free and vigorous growth, with large dark green glossy leaves, and the veins, which are prominent, are of a deep crimson colour. A most desirable addition to the class of ornamental foliaged plants, and it will prove of equal utility for room or conservatory decoration with the well-known *Ficus elastica*.—Messrs. Veitch and Son.

GENISTA EVERESTIANA, Fabaceæ.—A close-habited free-growing plant, with smallish leaves, the leaflets of which are short, obovate, and blunt-ended. Flowers produced in long spikes, very sweet-scented, and of a rich orange-yellow, quite distinct from, and much superior to, that of other *Genistas* in cultivation. A seedling from *G. fragrans*. This *Genista* merits a place in every greenhouse and conservatory.—Mr. C. Everest, Reading.

GENTIANA FOLIOSA, Gentianaceæ.—A pretty herbaceous plant from the Andes of Pichinchia, raised from seeds collected by Dr. Jameson, and closely resembling *G. rupicola*. It has an erect stem about a foot high, with acutely oblong-ovate leaves, and a few largish lilac somewhat bell-shaped flowers. Dr. Jameson stated that it was a truly Andine species, growing in the region of the *Culeitia* and Fox-tailed Lupines, and not confined to Pichinchia (where he had gathered it at an elevation of 15,000 feet), but occurring on all the high summits at the region of perpetual snow.—Isaac Anderson Henry, Esq., Edinburgh.

MUTISIA DECURRENS, Asteraceæ.—A hardy climbing evergreen, from Chili, which withstood the winter of 1860-61 at Exeter. Leaves oblong-lanceolate, entire, terminating at the apex in a tendril, and at the base in a leafy wing, which is continued some distance down the stem. The flowers

are produced at the ends of the branches, and consist of spreading rays of broad strap-shaped florets of an intense orange colour; the disk of a pale yellow colour.—Messrs. Veitch and Son.

OSMANTHUS ILICIFOLIUS VARIETATUS AUREUS.—A dwarf evergreen shrub, with flat spiny-edged leaves of a dark green colour, very prettily margined in an irregular manner with pale or yellowish green. Promises to be a very ornamental shrub.—Mr. Standish.

OURISIA COCCINEA.—A dwarf, hardy perennial of great beauty, introduced from Chili. Leaves radical,

stalked, cordate, bierenate, somewhat like those of a *Mitella*; the flowers grow on an erect stem about a foot in height, this stem terminating in a raceme of opposite drooping tubular two-lipped scarlet flowers, an inch and a half long, and streaked on the face of the limb with crimson.—Messrs. Veitch and Son.

PRIMULA PRÆNITENS (FIMBRIATA FLORE-PLENO) DELICATA, *Primulacææ.*—A fine double Chinese Primrose, obtainable from seeds. Of vigorous habit, with bold full double flowers, measuring nearly a couple of inches across, fringed, white, changing to a delicate blush. Smith, Dulwich.

JANUARY, 1863.—31 DAYS.

PHASES OF THE MOON.—Full, 5th, 3h. 32m. morn.; Last Quarter, 13th, 0h. 6m. morn.; New, 19th, 4h. 2m. after.; First Quarter, 23th, 4h. 54m. after.

D.	Sun rises.	Sun sets.	Moon rises.	Moon sets.	Weather near London, 1862.						Rain.	THE COUNTRY.	
					BAROMETER.		THERMOMETER.					The Garden and the Field.	
					Mx.	Min.	Mx.	Mn.	Me.				
	a. m.	h. m.	Aft.	Morn.									
1	3 9	3 59	1 18	4 53	30.35	30.27	39	30	34.5	.01	Aconite fl.		
2	8 9	4 0	2 1	5 51	30.36	30.25	45	29	37.0	.00	Christmas rose fl.		
3	8 8	4 1	2 51	6 41	30.07	29.74	43	27	35.0	.00	Lauristinus fl.		
4	8 8	4 2	3 48	7 22	29.83	29.74	45	25	35.5	.00	Rosemary fl.		
5	8 8	4 3	4 51	7 58	29.83	29.67	50	21	35.5	.00	China rose fl.		
6	8 8	4 5	5 57	8 26	30.05	30.04	48	30	39.0	.00	Winter furze fl.		
7	8 7	4 6	7 4	8 49	30.06	29.89	52	27	39.5	.16	Polyanthus fl.		
8	8 7	4 7	8 12	9 10	29.72	29.61	50	27	38.5	.14	Stinking hellebore fl.		
9	8 6	4 8	9 20	9 30	29.69	29.56	54	43	48.5	.08	Primrose fl. [foot fl.		
10	8 6	4 10	10 32	9 48	29.71	29.57	51	40	45.5	.02	Winter-leaved colts-		
11	8 5	4 11	11 45	10 7	29.57	29.27	49	30	39.5	.04	Poa trivialis fl.		
12	8 4	4 13	Morn.	10 29	29.71	29.49	49	27	38.0	.01	White deadnettle fl.		
13	8 4	4 14	0 59	10 51	29.69	29.59	51	35	43.0	.12	Mezerion fl.		
14	8 3	4 16	2 16	11 22	29.72	29.48	44	31	37.5	.03	Wild heartsease fl.		
15	8 2	4 17	3 34	After.	29.94	29.87	43	25	34.0	.00	Furze fl.		
16	8 1	4 19	4 48	0 52	30.03	29.97	41	20	30.5	.00	Crocus fl.		
17	8 0	4 20	5 53	1 57	30.00	29.99	35	19	27.0	.00	Ivy sheds its leaves		
18	7 59	4 22	6 47	3 14	30.97	29.96	36	17	26.5	.00	Red deadnettle fl.		
19	7 58	4 24	7 27	4 38	29.90	29.76	29	24	23.5	.00	Creeping crowfoot fl.		
20	7 57	4 25	8 1	6 2	29.69	29.53	32	27	29.5	.00	Changeable flowered		
21	7 56	4 27	8 28	7 27	29.48	29.43	40	29	34.5	.06	hydrangea fl.		
22	7 55	4 29	8 50	8 47	29.51	29.37	53	28	40.5	.05	Groundsel fl.		
23	7 54	4 30	9 10	10 3	29.62	29.33	50	38	44.0	.09	Honeysucklefoliates fl.		
24	7 53	4 32	9 32	11 19	29.48	29.41	56	40	48.0	.03	Roundhead'd cyclamen		
25	7 51	4 34	9 53	Morn.	29.98	29.56	48	19	33.5	.22	Hazel catkins appear		
26	7 50	4 36	10 16	0 29	30.19	30.17	53	35	44.5	.00	Hepatica fl.		
27	7 49	4 37	10 45	1 39	30.18	30.02	49	31	40.0	.00	Winter aconite fl.		
28	7 47	4 39	11 18	2 44	29.80	29.73	53	40	46.5	.06	Pilewort fl.		
29	7 46	4 41	11 59	3 42	29.76	29.62	54	45	49.5	.08	Bearsfoot fl.		
30	7 45	4 42	After.	4 35	29.65	29.59	54	44	49.0	.32	Spring snowflake fl.		
31	7 43	4 44	1 40	5 20	29.74	29.68	55	48	51.5	.02	Daisy fl. [Snowdrop fl.		

THE GARDEN GUIDE FOR JANUARY.

KITCHEN GARDEN.—There ought not to be now a single square yard of unoccupied ground that has not been deeply dug since the last crop was taken off. Deep stirring and successive frostings of the soil are immensely beneficial, and there will never be much success in the culture of edibles where there is any fear of hard work in winter. The out-door work of this month must be regulated by the weather. When the ground is not fit to be trodden on, get together all the clippings of hedges, prunings of trees, etc., etc., for charring, and keep the produce under cover to use as needful; it is a most valuable top-dressing for peas and other early crops, both to stimulate growth and prevent attacks of slugs. During frost wheel out dung, ready to dig in at the first opportunity. Sow, during fine dry weather, Dillistone's Early and Sangster's No. 1 peas, Mazagan, Long-pod, and Beck's Gem beans, Horn carrot, and Hollow-crowned parsnips. We have found of late years that parsnips sown at the end of January make very heavy crops, and are rarely hurt by frosts, and, if they do happen to be cut off by frost, there is still time to sow again, and the loss of the seed is a very trifling matter compared with the chance of a heavier crop.

FLOWER GARDEN.—We cannot advise the planting of evergreen shrubs at this season, though we confess to doing it ourselves and seeing it done by everybody else. It would be much better for the trees to be content now, with marking the places where they are to go by stakes, and leaving them untouched till April, when the shift will distress them less and they will commence to make new roots immediately. This plan allows of the planting of deciduous trees and the finishing of all the rough work in laying out a shrubbery, and it may even be carried so far as to the making of the holes for the evergreens, laying the stuff taken out in heaps beside them to get completely pulverized for filling in. Every cultivator of flowers should secure now a good supply of turf from a loamy pasture, and of bog peat, or silky yellow loam in which the common brake grows plentifully. These should be stacked upon high ridges like walls, so that the frost will penetrate the whole mass, and the grass will rot quickly. Manure, roughly spread among choice shrubs, will assist in protecting their roots from frost. In spring the manure can be levelled and

all rough stuff raked off. This is a good time to make banks and rockeries, as, during frost, the wheeling can be done without harm to the walks.

GREENHOUSE.—Hard-wooded plants must have fire-heat during frosty weather, but it must be given with caution, and must not rise above 40° at night and 50° by day. Hang strips of worsted netting over the ventilators, to break the force of cold winds: this will allow more air to be given. Soft-wooded plants may be set going pretty freely, but be very careful not to have too high a temperature, which is most exhaustive to the plants. Examine all the old stakes used as supports to plants in pots, and, if decaying, remove them. The appearance of fungus on the part buried in the soil soon leads to the destruction of the plant, by contact of the white threads with the roots. Train and tie out whatever requires it; revise tallies and labels; keep down green-fly, by fumigating; and complete all odd jobs, so as to have no hindrances to spring work, when this month is over. Thermometer, 45° on an average, varying from 35° by night to 50° by day.

STOVE.—Be careful to keep down the temperature in general collections, and give air whenever the sun causes the thermometer to rise above the average. Plants that need pruning and repotting should be cut over, and left to start, before their roots are disturbed. Thermometer, 55° at night, 65° by day.

COLD FRAMES AND PITS.—Do not be in haste to remove protecting materials after a long frost. Let the plants recover themselves in the dark, and should bright sun follow suddenly upon severe weather, add some loose straw, to prevent the warmth reaching the stock too suddenly. Remove all dead leaves, and give plenty of air in mild weather.

FRUIT GARDEN.—Pruning ought to have been done and the ground cleared long ago. If not, set about it at once, for, in the hurry of the general spring work, the buds may swell before the knife has finished its work, which is injurious. Trees on east walls had better be unnailed till the end of February, to keep them back. Manure between the rows of currants, gooseberries, and raspberries.

VINERY.—Cover outside borders with a dry material. Set the first house at work at 45° to 50°, and increase the heat a little when the buds have fairly opened. In

late houses, paint the stems with a mixture of soap, sulphur, and soot, and give walls, rafters, and trellises, a general cleaning, before the vines begin to work.

PINEY.—Great care must be taken at this time of year to prevent injury by damp and sudden fluctuations of temperature. As we have now little sun, the general stock must be kept quiet by a moderate temperature. Young suckers potted off in the autumn will require a steady bottom-heat and air at all favourable opportunities. Day temperature for plants swelling fruit 75° to 80°, night 65°. Shift to fruiting-pots all the strong succession plants.

FLORISTS' FLOWERS: *Cinerarias.*—These will damp off at the collar, or lose their foliage, if any accident occurs to touch them with frost or excess of moisture. This is the critical moment for them. Keep down mildew by the use of sulphur and admission of air. Remove decayed leaves, and tie out large specimens. Those showing flower may be put on a warm shelf; but the cineraria dislikes heat as much as it does frost.

Dahias.—Now is a good time to get the ground ready, where these are to be planted out, by deep digging and ridging up, to have it sweet and pulverized when they are planted out in May.

Pelargoniums.—Many will probably want repotting, which must be attended to. Select the plants intended for special purposes of exhibition or decoration, and give them plenty of room near the glass, and a temperature of 50° at night and 60° by day. Water with great care, and give air whenever the temperature outside is not lower than 32°. Those for summer blooming will do best at an average of 45°, but young plants that are not over strong should have a warm place.

Hollyhocks.—Seed sown now, and placed in a moderate heat, will produce plants that will flower this year. There is only one caution necessary, and that is to beware of forcing them along too fast. We have known many instances of the plants perishing when about to open their blooms through too much stove heat in the first period of their growth. Shift from the seed-pans as soon as large enough to handle, and use a light rich soil.

Auriculas.—Water very sparingly, keep the foliage dry, remove dead leaves, and guard against cold cutting winds. Give air at every favourable opportunity.

Carnations and Picotees.—Keep them as hardy as possible, by taking off the lights whenever the weather permits. Much moisture would now do much mischief, but they must not get dust-dry.

Turn up a few plants occasionally, and see if aphid has attacked them.

Calceolarias.—Herbaceous kinds that are pretty forward should be repotted, and have a little extra warmth. Shrubby ones will require stopping, but will do better in the ordinary temperature of the house. Green-fly is sure to appear now, and must be checked in good time.

Camellias.—As they come into flower, treat them liberally. Keep the foliage clean with the syringe, or sponge dipped in tepid water. Keep them from fire-heat as much as possible. Azaleas treat the same, but give a little heat to those wanted early in bloom. Remember that sudden changes of temperature, exposure to dry heat, or too copious supplies of cold hard water, will cause the bloom-buds to drop. Force gently, and proportion the supplies of water to the condition of the plants. All hard-leaved plants, such as camellias, oranges, etc., should have their leaves sponged with tepid water.

ORCHID HOUSE.—Prepare for potting as the season advances, and have all necessary material in plenty, and in a clean state. Chopped sphagnum, soaked in boiling water and put aside where no insects can get to it, fibry peat in blocks, crocks broken to three or four sizes, of which that nearly of the smallness of dust will not be the least useful, and good charcoal from which the dust has been sifted. When the plants are to be shifted, immerse them in tepid water one day previous, so as to wet the ball thoroughly. After repotting, fix the plants firmly to prevent rocking over, and place them in the warmest end of the house to encourage growth at once. The repotting should take place just as they are about to grow. The general collection must be kept in plump condition by sprinkling the floor of the house frequently, and at the same time allowing a slight rise of temperature. The syringe should be very sparingly used this month, but as the month advances there will be an increase of light, and a general tendency to growth will become evident. *Brassias*, *Cycnoches*, *Celogynes*, *Miltonias*, *Sophonites*, and *Coryanthes* are now beginning to grow, and may be shifted if needful. This is a good time to increase by division of the pseudo-bulbs any large specimens that are quite at rest. *Dendrobiums* are increased by cutting the old bulbs from the plant when they are at rest or just starting into growth, each piece being removed with a few roots attached, in the same way as an auricula offset. Old flowering bulbs, cut off without roots and laid on sphagnum in a warm and

shady part of the house, will in time throw out roots, and may then be potted. After potting keep warm and shaded, and give very little water until growth has fairly commenced. Cattleyas for specimen culture should now be operated upon to produce "back breaks." The process consists in cutting the plant in two between the bulbs, that is to say, there is to be an incision made, but not to separate the parts cut. After making the cut, let them remain in the same place, be careful that no water lodges in the cut, but supply plenty of atmospheric moisture with a rise of the temperature. This will secure the formation of several flowering bulbs the next season.

Orchids that may be in bloom in January.—*Angrecum eburneum*, *eburneum superbum*, and *eburneum vires*; *Arphophyllum spicatum*; *Barkeria elegans*, and *Skinneri*; *Bletia Shepherdii*; *Brassavola Digbyana*; *Burlingtonia amœna*; *Calanthe vestita rubra oculata*; *Cattleya Warszewiczii delicata*; *Cœlogyne Gardneriana*, and *media*; *Cymbidium giganteum* and *Mastersii*; *Cypripedium insigne*, *insigne Maulei*, and *purpuratum*; *Dendrobium album* and *chrysotoxum*.

Orchids newly received are not to be pushed into growth too quickly. Epiphytes should be attached to their blocks at once, and be hung head downwards. When they begin to grow, reverse them.

TO CORRESPONDENTS.

CATALOGUES.—"Catalogues of British Ferns, by Stansfield and Sons, Vale Nurseries, Todmorden," is full and accurate, and contains many of the rarest in cultivation, as well as the better known and cheapest kinds. Messrs. Stansfield announce the publication of a general fern list for 1863, to comprise stove, greenhouse, and hardy ferns.—"Carcy Tyso, Wallingford, Berks, Descriptive Catalogue of Flower Roots, Plants," etc., is specially rich in anemones, ranunculuses, carnations, and picotees, and for the first two is the fullest list published.—"Thomas Rivers and Son, Sawbridgeworth, Catalogue of Fruit Trees," newly arranged in classes, and in every page scraps of original information, which gives quite a new interest to the perusal of a catalogue.—"Catalogue of Strawberries," also rearranged so as to allow of the classification of the varieties as early, dessert, culinary, and autumnal.

BOOKS RECEIVED.—"The Miniature Fruit Garden, by Thomas Rivers, Sawbridgeworth. Eleventh edition. Longmans." This charming little book has been much improved and added to, though it seemed as near perfection as possible previously. No amateur fruit grower should be without it. Mr. Rivers has improved the plan of the "ground vineries," and has incorporated in the work some useful notes on the culture of pears and apples in town gardens.—"Rambles in Search of Wild Flowers, and how to Distinguish them. By Margaret Plues. Published at 162, Fleet Street." An interesting gossip book which the young botanist will find invaluable. It is, perhaps, rather too gossip, but it is, nevertheless, full of information, accurate, and liberally illustrated with coloured pictures.

We take note, also, that it has a good index, by which a work of this sort is doubled in value.—"The Garden Oracle, for 1863," has been reprinted, and the new issue is now ready.—The volume of the *FLORAL WORLD* for 1862 is now ready, bound in cloth, price 6s. Complete sets may be had in cloth for 30s., in numbers, 20s. As the stock is limited persons desirous to complete their sets should order them of their booksellers at once.

RAISING A STOCK OF EVERGREENS.—*Brixtonian*.—It is not long since Mr. Howlett wrote on the propagation of evergreen shrubs, and if you look for an article entitled "Always be Sticking in Something," you will see that the subject has had some attention besides the notices in the monthly calendar of work. It will be quite a mistake to set a Waltonian case to work at this time of the year to get up a stock of shrubs. We do sometimes propagate Portugal laurel, *lauristinus*, and *eunonymus* in heat in spring, but we should never recommend amateurs to go to work that way. The season to put in cuttings of these things is from the middle of July to the end of August, and the open ground is then the best hot-bed for them. Your proposal to propagate chrysanthemums from old flower-stems in the way vines are done, is almost as untenable as that respecting the evergreens. Just do them in the usual way, and you will have no trouble and be sure of good plants.

LAWN FOUL WITH DAISIES.—*B.M.*—We know of a lawn which, some years ago, was like yours, one mass of daisies. The proprietor made it a rule to take out one with a spud every morning all the year round, and leave a pinch of grass

seed in its place, and that lawn is now perfection. We have seen attempts made with daisy rakes, the use of superphosphate of lime, and other manners and methods, and upon the whole there were about as many failures as successes. The fact is, it all depends on how the work is done. We set a lad to work every spring to take up the plant by the roots, wherever a daisy makes its appearance, and all he has to do is to look about him for the white flowers, and work accordingly. To get rid of daisies is a merely mechanical operation; but as it is seldom done effectually, because the daisies tire people out, we must fall back on an infallible method of extirpation, which may appear formidable, but is really very simple, and easily accomplished. Get a labourer to strip off the whole of the turf and stack it up as material for potting; then let him dig the ground over and lay on a surfacing of fine soil to make good the thickness removed with the turf. This to be done now, and the ground left rough. In March have the ground levelled, rolled fine, and sown *thick* with a mixture of finest lawn grasses, as described in the FLORAL WORLD, vol. i., page 60. If the seed is good there will be a close, fine turf the same season. If any difficulty about getting the seed good and properly mixed for the purpose, send to Messrs. Sutton, of Reading, for it. Tell them the extent of the lawn and the nature of the soil, and you will have a lawn fit for a lady's foot.

ROSE SOLFATERRE.—*C. Monkstown.*—This is a vigorous-growing noisette, producing an abundance of its fine yellow flowers in a warm position. As a standard, it should be grown strong, and have annual dressings of manure, and the pruning should consist in simply shortening in all extra long straggling shoots, and cutting clean away any that are misplaced. If we found this rose to bloom poorly in any particular spot, we should give up growing it as a standard, and give it a place on a hot wall. In any case, the position for it should be sheltered and warm. Perhaps the regular use of quicklime sprinkled among the plants may assist in preserving your larkspurs against slugs.

FERN SHADE.—I have an ordinary glass, twelve inches wide, with shade to fit, in which I have been trying to grow the maiden-hair fern, *Adiantum capillus veneris*; but it makes no growth, and I begin to think it is not the right kind of fern for this sort of case. Will you tell

me of some ferns suitable, and how many I ought to put in, the best soil for them, and whether I should keep the case in a room with a fire? May I purchase and plant the ferns now? My case looks very ugly, with a shade two feet high and a fern inside two inches high. I have *Lycopodium* round it, but it grows coarse. I am much obliged for the advice about my peach-trees in last number. Do you advise nailing and pruning now.—*Lavender Hill.* [Undoubtedly you want something more imposing than maiden-hair for a shade two feet high. Our recent papers on ferns will, we should think, suggest many you would like to grow. We could recommend hundreds for that purpose, but we must, of course, only name a few. Well, then, we should advise you to place in the centre a plant of *Phlebodium sporodocarpum*, which is a strong-growing polypody with noble glaucous fronds; or, instead of this, use *Pteris flabellata* var. *crispa*, a fern with light lively green fronds. For a few smaller ferns, take *Lomaria antarctica*, *Doodia caudata*, and *Humata pedata*. If you want anything more to fill up, put in inch pieces of *Selaginella apoda*. The soil to be turfy loam and turfy peat, equal parts chopped up together to the size of walnuts with all the dust, and one-fourth part of silver-sand added. You may plant at once. The ordinary warmth of a sitting-room will do for all these, but the more warmth the better, so you can place the fern-case wherever it may be most convenient and agreeable. Peach-trees newly planted may be pruned and nailed at once. In cold, exposed districts, we advise unnauling till the beginning of March, in order to keep the trees quiet. If you want to grow *Adiantum capillus veneris*, get a nine-inch Pascal's fern-pot and glass from Messrs. Hooper & Co., Covent Garden. Fill it half full of broken flower-pots, then fill up with lumps of peat and chopped moss, and on the top of the soil lay a number of pieces of any soft stone; even hearthstone will do if there is any difficulty about getting a bit of soft sandstone to break up. In this plant the fern and it will soon begin to creep over the little blocks of stone and take a new lease of its life. Keep it warm and damp, and give air when the room is cool, and when there is no dust flying.

DESFONTANIA PINOSA.—I have had a plant of this four years, and it has never flowered. Is it hardy enough to be put out in the open ground in this

neighbourhood, and if so, what aspect and soil will suit it? Shall I keep my plant in the greenhouse, and how shall I throw it into bloom?—*S. P., Bath.* [We really do not know whether it will live out of doors at Bath. We have planted it out three times in an experimental peat-bed at Stoke Newington, and each time lost it in February or March. But it is so nearly hardy that we really think it would grow vigorously, and survive the severest winter in the climate of Bath. But we do not advise you to put out your one plant; no, keep that in the greenhouse, shift to larger and larger pots as required, and wait patiently till it blooms, which it will do when old enough. When in bloom it is a beautiful object. If planted out of doors it should be in gritty peat, and in a damp and shady situation. The dry east winds of March always tried our experimental plants much more than the damp, which at this time of year is fatal to so many other subjects.]

IMPRESSIONS OF LEAVES.—*H. H. Whitwell.*

—Take a piece of planed deal board and cover it with wash-leather; then procure a wooden roller, six or eight inches long, such as linendrapers use for rolling silk upon, and cover that also with wash-leather; then a box of printing-ink and a "dabber" will complete the apparatus. A soft india-rubber ball may be used for the dabber, or one may be manufactured of leather with a handle. Place the leaf to be copied upon a clean card or sheet of paper, with the veined side uppermost; dab a little of the ink out on a smooth slate, and then apply it evenly over the veinings and edges of the leaf; place a sheet of damp paper upon the printing-board and lay the leaf upon it with the prepared side downwards; cover with a sheet of blotting-paper and press the roller backwards and forwards upon it. The result will be a correct representation, and you will be able to use the same leaf for several impressions.

VARIOUS.—*R. R.*—Du Breuil is right, and your interpretation is right, and the fruit spurs in front will ripen perfectly if they are secured early in the season. We have followed that system of pruning and training for fifteen years, and never found any objection to it through the non-ripening of the spurs; in fact, they ripen better than if tied in. We doubt if Mr. Wardle has any existence; the translation is a good one, and the translator need not have resorted to what appears to us a mere trick.—*Rosa.*

—Wait till April, and then have the plants in pots. Keep them a week in a frame after receiving them, and then plant.—*A. B.*—No risk at all in moving apple trees in November with their leaves on. The Doctor says there is, and there we differ. We have moved entire plantations of pears and apples in the middle of November, when they were full of fresh green leaves, and we always thought them the better for it. Certainly they bore well the next season. Of course it would not do to let them lay about, as some people do, with the atmosphere exhausting their roots.—*A. S. F.*—In the FLORAL WORLD of May and July, 1858, and January, 1862, are full instructions on the preparation of anatomized leaves. We saw nothing at the Exhibition of a novel kind in this way.—*Prior.*—Thanks for many favours. Undoubtedly the rose described at p. 237 as "Madame Eugene Verdier" should be *Mademoiselle Eugenie Verdier*, and we shall be obliged if our readers will correct their copies. Such an error as this, though obvious when seen by its violation of gender, may easily pass in reading the proof if the printer has misread the original pothooks. We begin to fear we shall never attain perfection. *Duc de Cazes* and others we shall have somewhat to say about hereafter. We have not yet gone through our list of roses. We happen to be cutting blooms of teas now every day, in spite of the frost, and without the aid of heat.—*J. W.*—B, Yorkshire Greening, F, Blenheim Orange, H, Gaff, I, Franklin's Golden Pippin, J, Fearn's Pippin, L, Bishop's Thumb. Many of the others are local varieties of cider apples, which have never been described or registered.

LATE LETTERS.—*T. E. P.*—We do not know what has become of Mr. West. The plant is a Solanum, but we cannot say which from a leaf. For papers on striking rose-cuttings see FLORAL WORLD, 1860, p. 153.—*T. S.*—The Coleus may do with you in a hot season, but we do not promise success.—*W. R.*—The apple trees have lost their surface roots by cropping under them, quite a common occurrence. Plant a few apple bushes at once in a quarter by themselves. We do not undertake to plant beds, but we will suggest a collection of large leaved Berberis for centre, small leaved Berberis outside, and outside ring of Cramoisie roses. Or selection of Hollies, Griselinia, Cotoneaster, and Berberis Darwinii, and outside circle of General Jacqueminot roses.

THE
FLORAL WORLD
AND
GARDEN GUIDE.

FEBRUARY, 1863.

CULTURE OF CYTISUS.



YTISUS, genista, and coronilla are conspicuous elements in the garland of the spring, and in the greenhouse and conservatory are invaluable for their bold and brilliant racemes of golden flowers, which contrast with admirable effect when grouped with camellias, cinerarias, primulas, and azaleas, amongst which they shed a delightful perfume. They all bear patiently some amount of ill-treatment, being very nearly hardy, not particular, even when blooming, about being in the best places, and may be grown to perfection in houses heated only sufficient to keep out frost. They are also, for the most part, very accommodating in habit of growth, and may be formed into dense bushes, or standards,

or with a little care to train out the young growth, and tie it down during the summer, may be formed into half-weeping trees. Very many of the most desirable hardy kinds will grow in any soil, and almost any position. We see the common laburnum growing freely, and flowering well in the London squares, and the smaller kinds of broom are quite at home on poor chalky or sandy soils, and are charming objects on the fronts of rockeries. The greenhouse kinds are rather more particular, and are well worth the little extra care they require to elevate them horticulturally above the condition of mere weeds. It is as to the management of these that we purpose to offer a few observations.

GENERAL TREATMENT.—All the stove and greenhouse species of genista and cytisus require a soil composed of peat, one part; leaf-mould, one part; and turfy loam, one part. When it is required to get up large specimens quickly, the soil may be peat, leaf, loam, and rotten dung, equal parts, with an addition of sand to render it porous. Frequent shifts are not required, nor do any of them need much pot-room. We have had specimens of *Cytisus Atleeana* three feet high and two feet across in seven-inch pots, and very handsome specimens may be grown in five-

inch pots. In potting, great care should be taken to secure good drainage, as, if well potted in the first instance, they may remain in the same pots two or three years. They should be firmly potted with the soil in tough fibry lumps over the crocks, and the finer parts of the compost used to fill in round the ball. Potting may be performed at any season, except when the plants are in flower, but the best time to shift is immediately after flowering is over, and when new growth is about to commence. If the plants need a shift, then turn them out of the pots, lay them on the potting-board, and remove with a pointed stick some of the old soil from the outside and top of the ball, but so as to avoid damaging the roots, which are generally found to form a close solid mass, with a few bundles of fibres running down among the crocks. Having removed some of the exhausted soil, they may be replaced in the same pots if the pots are not altogether disproportionate to the size of the plants. In this case lay over the crocks some lumps of turfy loam about the size of walnuts. Place the plant in the pot, and fill in round the sides with a mixture of turf, dung rotted to powder, and silver-sand, equal parts, and over the surface of the ball spread an inch or so of the same mixture. After potting, keep warm and shaded for a fortnight, and then place in an airy part of the greenhouse. If shifted into larger pots they should never be more than one size larger, as there is nothing gained by overpotting. We have ourselves, indeed, more frequently had to shift specimen *Cytisuses* into larger pots, not because the roots required more room, but because the plants had made such large heads that it became next to impossible to keep them on their feet, and they were put into larger sizes to prevent them falling about at the slightest touch, or breath of wind. When not taken out of their pots, they should always be refreshed with a top-dressing after the bloom is over in the spring. After the middle of May all this class of plants may be turned out into cold pits, or on beds of coal-ashes in a shady and sheltered place. It is not well to plunge them, because they are sure to root through the pots, but it is well also to guard against too much action of the sun on the pots, which will burn the roots, and endanger the next season's bloom. As the new growth advances, rip it in frequently; this will promote a dense bushy habit. Any branches that grow in an unsightly manner should be cut clean back in May or June, and if there is a large stock of plants, their heads may be clipped into shape with a pair of shears to save the time of separate stopping. There should be no stopping after the first week in August, and the plants should then be placed where they will have full sunshine except at mid-day, and, after a few weeks, may be placed where the sun will shine fully on them, which will promote the ripening of the wood, and the setting of the bloom for next season. Throughout the whole of the growing season they must be liberally watered overhead, and at the root.

SEEDLING GENISTAS.—All these seed freely, and the seedling plants come generally true to their parents, even in the case of peculiar varieties. The amateur cultivator will find it an agreeable recreation to raise seedling stock of the choicer kinds of *Cytisus* and *genista*, and there will always be the incentive of an expectation of something novel and valuable; for though they are so little apt to vary from the original type, there will be found many variations of habit and vigour in a batch of seedlings. The seed should be gathered before it is dead ripe, for fear of loss by the spontaneous opening of the pods, and be kept in the pods till the following

February, when it should be sown in a mixture of peat and leaf-mould, and placed on a gentle hot-bed. If early sowing is not convenient, wait till the end of April, then sow in shallow pans, cover the seed with the sixteenth of an inch of soil, lay a square of glass over each, and place them on a back shelf of a warm greenhouse or in a frame, and in three weeks there will be plenty of small plants. The seedlings from the early sowing will be potted in thumbs singly in May; the soil to be peat and leaf-mould and silver-sand, equal parts. In July they will require a shift to sixty-sized pots, and the soil is then to be peat, leaf, and turfy loam, equal parts. They will require a little care as to watering from the first, because of the tendency of peat to dry quickly, and from the 1st of August to the 1st of October they may be put out of doors on a sunny border, or in a frame with the lights off night and day to harden them for the winter. When housed for the winter, the majority will be handsome plants of from four to twelve inches in height, and some will show such a naturally bushy habit as to require no stopping or training. Seedlings raised by sun-heat in May will only need one shift, and as they will be less forward by winter time than those from seed sown in January, it will be advisable to prick them all out into shallow boxes, which will secure them from risk of drought, and lessen very much the trouble of keeping them. The next year, in April, they may be potted into sixty-sized pots in the mixture recommended for specimen plants.

GENISTAS FROM CUTTINGS flower much earlier than those from seed, and for market growers cuttings are always to be preferred. The cuttings should be taken from the end of April till the end of May; short young side-shoots of two inches length are the best. These stripped of their lower leaves and dibbled into a pan of silver-sand, covered with a bell-glass, and placed on a gentle heat of fermenting tan or hops will be well rooted in about four weeks, and will then require to be dealt with in the manner described for seedlings. It is a waste of time to put in ripe shoots of the previous year, or indeed any hard and mature wood, for cuttings.

STANDARDS.—The robust-growing kinds, such as *Cytisus Atleeana* and *Everestiana* make handsome standards, if well managed. Select plants from the cutting pans which show extra vigour, and in potting use from the first a fifth part of very rotten dung with the peat and loam otherwise recommended. At the first potting insert a straight stick in each pot, and train the leader to it. The leader must not be stopped, but all side-branches must be nipped in rather close, and those nearest the bottom be cut clean away, a few at a time, as the leader advances. If the side-shoots are cut away too fast, the stem will be weak and slender, so a moderate amount of side-growth must be allowed for the sake of strengthening the stem, and these shoots are to be successively removed from the base of the stem upwards, as others are thrown out above them, to maintain a vigorous growth. When the stem is as high as desired—say from two to three feet—nip out the point of the leader, and form the head by carefully stopping and training as the growth advances. Seedling plants will always produce a fair proportion of vigorous growers, which may be grown to clean stems, and used as stocks to graft choicer varieties upon to form the head.

BOTANICAL DISTINCTIONS.—*Genista*, *Cytisus*, and *Coronilla* are important families of the order LEGUMINOSÆ. In Don's "Dichlamydeous Plants," *Genista* forms the 59th section of the order, and the characters

are—Calyx bilabiate, upper lip bipartite, lower one tridentate or five-lobed, the three lower lobes nearly joined to the apex; vexillum oblong-oval; carina oblong, straight, not always containing the genitals; stamens monadelphous. *Cytisus* forms the 60th sub-family of the order. The characters which distinguish it from *Genista* are—Upper lip usually entire; vexillum ovate, large; carina, obtuse, inclosing the genitals. *Coronilla* forms the 135th section of the order in Don's arrangement. The characters are—Calyx campanulate, five-toothed, the two superior teeth approximate and joined together higher up than the rest; claws of petals usually longer than the calyx; carina acute; stamens diadelphous; legume nearly terete, slender, at length separating into oblong, seeded joints. One character by which *Coronilla* may be readily distinguished from its associated genera is the production of the flowers in heads or umbels at the tops of the peduncles, and from this it takes its name, from the resemblance of the flowers to a *corona* or crown. We shall give next month a selection of species and varieties.

MYRTLES AND EUGENIAS.

THE prettiest example of the use of the common myrtle is to be seen in the Alhambra Court at the Crystal Palace. There is a marble floor, a marble fountain, Moorish surroundings of colour and design, and a close-clipped hedge of myrtles all round the *impluvium* (if that is the right name), so that when the fountain splashes in the sunshine it will sprinkle the myrtles, and bring out all their delicious odour to perfume the air of the apartment. Just such a hedge as that might be made a feature of in any private garden in any part of this tight little island, on the same plan precisely as we keep up a row or bed of geraniums. I was reminded of this some time since by the inquiry of a correspondent who asked about the formation of a myrtle hedge, and I then remembered that though I never had a myrtle hedge, so to speak, I had had something very near akin to it, namely, a row of short bushy myrtles to form the front line of a mass of evergreens all planted on the ribbon system. Why such a thing is desirable is because the myrtle is one of the most beautiful evergreens we possess when well grown, but a wretched thing when badly treated. There is a south of Europe, if not a tropical look about it, and if brushed by the outer boundary of a crinoline, as it may happen to be when on the margin of a terrace walk, the leaves emit the most delightful fragrance. During hot weather in autumn, the odour of the myrtle, when the leaves are bruised, is the most *recherché* combination of the flowery and the spicy of all the garden odours at our command, and it always calls to mind that line in Cowper's lines "To his Mother's Picture"—

"Where spices breathe and fragrant roses smile."

For these and other reasons the common myrtle, *Myrtus communis*, is a very desirable subject to grow in quantity for neat, close marginal lines of dark rich green, and the best of all evergreens for a front line of a carriage drive, or approach where flowers are not used plentifully. It so happens that I have a few plants left of the row of myrtles in which I once delighted. They are in the form of thick stumps like broom handles, a foot high, beset all over with short twiggy branches so as to form round mop-headed shrubs. Those that are wanting to make the original lot

complete were killed off root and branch by a severe winter, and it is because of that accident that I have remarked above that a myrtle hedge must be managed in the same way as a stock of geraniums, or any other and tender bedding plants. In October they should be taken up, and either planted out in a bed of loam in a cold pit, or potted separately, and placed in a pit or greenhouse. This would be the only safe and certain method of keeping them for ever. To keep them for a few years more or less, they may be left in their places, and in such a season as this would not only take no harm, but look beautiful, and be doing good, for the annual lifting is not altogether beneficial to them. But there is a way of hitting a medium course. Plant out your little myrtles when two or three years old. Plant them early in May in strong loam, abundantly manured. In the month of June immediately following, put in a lot of cuttings, and grow on a stock of young plants, and keep these plants in pots as a reserve, and if there comes a severe winter, and the hedge or ribbon line is cut off, you wait for spring, plant out the reserve, and again raise a fresh stock. This will be delightful practice, so any one who wishes for a myrtle-hedge may take courage, and enter upon the task with no fear of being involved in a complexity of troubles.

The main reason why so many scrubby, leggy, and shrivelled myrtles are to be seen is because it is very seldom they get food enough. Order in large myrtles from a nursery, and what yellow-leaved, lanky, poverty-struck plants you get. That must be borne with because the trade are compelled to keep these things in as small pots as possible. But plant them out in a deep yellow loam with abundance of rotten dung worked in previously, and give them manure-water once a week from the end of May till the end of July, and what bouncing plants they soon become, the foliage dark and as glossy as if varnished, and the bare stems abundantly clothed with leafy twigs; and if they are in a hot position—as they ought to be—they will flower abundantly, and, perhaps, grow to the dimensions of trees if allowed before they are hurt to the extent of a leaf by any severities of weather. For a hot wall a few large myrtles are every whit as useful as the best of roses, pomegranates, or even magnolias, and the best way to train them is to allow of the free growth of breast-wood, so that they will present bow fronts.

The only difference to be observed in the nature of *Eugenias* and myrtles is that the former require a soil less rich and more peaty than the myrtle, though we are very much disposed to think that the less peat the better, and in our own practice we have rarely used peat except for the first potting of newly-struck cuttings. That *Eugenias* have made very little way hitherto is owing to the fact that when the fruit was first exhibited, people were told they might grow it in the same way as black currants, and from the cottage-garden gather the most delicious luxuries that were ever tasted by man. The twenty or more species of *Eugenia* in our stoves and greenhouses have thus for many years had a cloud upon them. I tried fairly enough what could be done with them out of doors, but with such ill-luck that I felt very much inclined to proscribe the genus, and know it no more. The two winters of 1857 and 1858 passed over a plantation of *Eugenia ugni*, and left them unscathed. In the spring of 1859 I planted a row under the west wall of a greenhouse. This was in addition to a row planted in the spring of 1857 in a very sheltered sunny spot.

The winter of the same year swept away about half the plants from the wall of the greenhouse, and the winter of 1860 swept away all that remained of both the plantations, and this determined me that *Eugenia* had not altered her constitution for the benefit of English fruit-eaters, and, like every other plant and animal on the face of the globe, had certain fixed capabilities that none of the skill of the acclimatizer could ever hope to modify to any extent that might be useful. Yet the *Eugenias* and the myrtles, and that most fragrant of spicy stove-plants, *Caryophyllus aromaticus*, the flower-buds of which are as good as cloves, and often used in lieu thereof, are all worth growing, because of their beauty and fragrance, and the uses to which the fruits of some may be put. In Italy the flower-buds and berries of the common myrtle are eaten for pepper. The French distil from myrtle flowers one of the most valuable of perfumes, the well-known *Eau d'Ange*, and now there is a better use found for *Eugenia* berries, that to make insipid tarts or useless conserves. For these reasons it is desirable, not only to grow them, but to collect the species and give them special attention, not as hardy shrubs that may be treated like currant-trees, but to plant under south walls in the south of England, to enjoy the shelter of the orchard-house in the midland counties, and about London, and in the north to have regular greenhouse and stove treatment, and their beauty to be thought more of than their utility.

Readers of this year's "Garden Oracle" will have observed a note on "Hybrid *Eugenias*," in which there is a remark on the new varieties raised by J. A. Henry, Esq., the best of which is a large-berried variety, called *Eugenia hybridus*. I tasted the berries of all the plants sent by Mr. Henry to the International Fruit and Gourd Show of the Horticultural Society, and they were as insipid as the dishes of *E. ugni* and *apiculata* which I used to bring in-doors, and put upon the table with the air of a man who had made a discovery, and added to the number of gustatory enjoyments. We always voted the *Eugenias* to be about as good as the berries of fuchsias, and no better. But it is the old story of use and abuse; the real use of *Eugenia* berries is to furnish a flavouring for ices, and probably *Eugenia* ices will yet play an important part in fashionable confectionery. It is, therefore, only right that *Eugenia* should be returned among the fruit-trees, but it is a downright shame for the trade to catalogue it as "hardy," which is done by Mr. Rivers, Mr. Cranston, Messrs. Lane, and others.

The new hybrid *Eugenia* of Mr. Henry, which will be sent out by Messrs. Veitch, is one of the most beautiful plants imaginable. When covered with fruit, it is as showy as an *Ardisia*, and if any of our gardener friends are in distress about dwarf trees for the dinner-table, let them secure plants of this new *Eugenia*, and grow them as standards, and they may be used again and again during the autumn, without taking any harm by an occasional confinement in a warm room with gaslight. To amateurs generally we strongly recommend the culture of *Eugenias*, both for their use and beauty, and their eminent adaptability to be used for any purpose to which myrtles are applied. To propagate them is easy enough; short cuttings of half-ripe shoots dibbled into sand, and covered with a bell-glass, soon root over a gentle bottom-heat, and in the height of summer may be rooted without the aid of artificial heat. Pot them in peat only to begin with, and shift as they require it into a mixture of equal parts, peat, leaf, yellow loam, silver-sand, and dung thoroughly rotted. Let them grow as

they please for a couple of years, and then begin to form them into compact bushes, with a short length of clear stem; or, if intended for standards, nip in the side growth, and by degrees remove it, beginning at the bottom, and so cutting it away upwards, always reserving enough to keep the plant in vigorous health. When the plants have attained to a fair size, they may be kept in the same pots for several years in succession, by turning them out in March, removing some of the old soil, and then re-potting in the same pots with rich, turfy compost. While in full growth, they can scarcely have too much water, both overhead and at the roots; if the pots are well drained, and to insure a good colour to the fruits, keep the roots rather dry as soon as it begins to change colour, and place the plants in the full sun in an airy greenhouse.

The following are desirable species and varieties:—*Eugenia apiculata*, five feet, greenhouse; *E. buxifolia*, five feet, greenhouse; *E. balsamica*, fifteen feet, stove; *E. fragrans*, ten feet, stove; *E. floribunda*, five feet, stove; *E. hybrida*, five feet, greenhouse; *E. ugni*, three feet, greenhouse. *Myrtus buxifolia*, seven feet, stove; *M. mespiloides*, fifty feet, stove; *M. communis*, nine feet, nearly hardy; *M. communis flore-pleno*, double-flowered, greenhouse; *Communis variegata*, variegated leaves, greenhouse; *M. tenuifolia*, five feet, greenhouse.



EUGENIA UGNI.

ROSE GOSSIP.—No. I.

ALMOST every individual has some hobby which may be looked upon as a beneficent dispensation of Providence to provide a relief for the overwrought brain or jaded spirits, and to restore their elasticity for encountering the responsibilities of everyday life. A hobby is, in fact, a sort of mental tonic, which, indulged in moderation,

braces up the mind to sustain the vicissitudes of fortune, and to pursue serious duties with cheerfulness and earnestness of purpose. Among the most wholesome and unselfish of these relaxations, a passion for flowers is certainly not the least. Unlike the virtuoso, who prizes his "large brass Otho," his "Teniers," or "editio

principles," more on account of his exclusive possession than their rarity or beauty, the floral enthusiast delights in sharing his pleasures with kindred spirits, and in bestowing the produce of his enterprise upon admiring friends. I must confess that, at present, my hobby is the Rose. I grow the flower with untiring interest while the weather permits, and when the season is past, I delight to speculate and talk about various matters connected with it. This must be my excuse for sometimes bestriding my Pegasus for a gentle canter into the realms of gossipdom, and marking down a few memoranda by the way.

I find that, contrary to expectation, we are to receive this season a large number of new continental importations—to be met withal by a few formidable rivals of native birth. Let us hope this will open an era of triumph for our English raisers, and render us independent of the annual heap of rubbish we are compelled to receive, for the chance of a scanty few turning out useful and valuable acquisitions. It must be admitted, however, that last year was unusually prolific in genuine additions to established favourites, that is, if some dozen or so do not belie the promise they have already given. It is, however, necessary to protest against the introduction of so many *clouded* and *uncertain* coloured varieties. At least half last season's flowers are of such a character—a character that if encouraged, will do away with one of the most important properties of the rose; viz., distinctness and intensity of hue, and which will by no means be compensated for by dingy reds, chocolate crimsons, or dirty pinks and whites. Whatever other good qualities such flowers may exhibit, let the real well-wisher to the progress of the rose set his face resolutely against the purchase of them, and with the absence of demand they will soon disappear from cultivation.

Another marked defect in too many novelties is a deficiency in the habit of continuous blooming. They are rude summer roses under a different name. In this desirable point there can be no doubt that numerous

older favourites excel many of recent date. An autumnal show, on a similar scale to the great July exhibitions, might do something to counteract this, besides having another excellent effect in eliminating a valuable class for garden decoration in those kinds which were free bloomers in the autumn—the class after all most suitable for general amateurs.

It is amusing to get hold of some of the French raisers' lists of new roses, and to peruse the marvellous descriptions given of their flowers. "Illumined with fire and violet," "saturated (*cuisse de nymphe*) flesh," "rose virginale," etc., are word painting with a vengeance. Sure such tints were never seen save under a Gallic sky or in the imaginative vision of a French florist with a new rose "to place in commerce" upon the pockets of perfidious Albion. This suggests another phase of the subject, namely, the want of uniformity in colour, a description that pervades our catalogues. I think these discrepancies must be traced to a lack of definite canons of colour among rose-growers, which it would be well should no longer exist.

Take Jules Margottin, for instance, which is variously described as follows:—Bright cerise, vivid crimson, brilliant rose, cherry, bright glossy pink, bright carmine, bright crimson rose, and cherry red. Now what is the difference between these tints? Which is the true colour, and what idea is the amateur to form of that by such descriptions as the above? Again, Duc de Cazes, Abd-el-Kader, Admiral Gravina, Dr. Bretonnean, Souvenir de Comte Cavour, Appert, Arago, Princess Mathtilde, Triomphe de Lyon, Louis XIV., are all described as dark crimson, or deep velvety crimson, although of such very dissimilar colours. Instances like these might be multiplied to an indefinite extent. Such things puzzle and confuse amateurs, cause miscalculation and disappointment, and greatly tend to check the taste for cultivating the most beautiful and refined of garden favourites.

An authoritative and definite code of "colour," as applied to flowers, generally recognized and understood,

is certainly a great desideratum. I do not think a more effectual method to attain it could be devised than that a committee of some of our most eminent rosarians should take the matter in hand during the great rose shows, where such opportunities for comparison and criticism are afforded. Let them decide once for all the precise colour and shades of colour of leading kinds, and let these colours be reduced to a diagram, to be printed in chromo, and published for the information and benefit, and to be within the reach of amateurs, and they will deserve well of their rose-loving countrymen.

By way of suggestion I append a table of colours in their respective shades. Some such arrangement, tinted in after due study by an able artist, would, I think, exhaust almost

every colour of existing varieties, as well as meet the result of the produce of the most skilful and successful hybridization:—

Dark.	MEDIUM.	Light.
Purple	Crim. purple	Violet
Plum or claret	Maroon	Red
Crimson	Light Crimson	Carmine
Crimson scarlet	Scarlet	Cherry (ce- rise)
Deep rose	Rose	Blush
Lavender	Lilac	Peach
Orange	Yellow	Primrose or straw
Copper	Salmon	Buff
		Flesh
		Tinted white
		Pure white

W. D. PRIOR.

Homerton, Jan. 3.

SPENT HOPS.

HAVING a few moments of leisure, I think I may usefully employ them in the interests of Floriculture by jotting down a few remarks that may serve to redeem hops from the aspersions that have been cast upon them, both as fermenting material for assisting numerous plants in their growth with bottom-heat, striking cuttings, etc., and as a fertiliser that may be employed to advantage for potting, etc., after it has become unfit for the purpose of furnishing bottom-heat.

As it regards the first particular, the heat they generate is not nearly so durable as that furnished by "bark" or "stable-dung," but on the other hand a very thin layer of them will supply a considerable amount of warmth, so that if the cultivator has a batch of any plants or newly-struck cuttings that only require the assistance of two or three weeks' gentle warmth to set them going for the season, a layer of six or nine inches of closely-packed hops would be ample for the purpose; besides, they are much pleasanter to finger in the process of plunging than either tan or dung. And whether the quantity employed is large or small, an admixture of new hops to the amount of

one-third of the quantity, well forked up and incorporated with the old, will revive the heat when it begins to decline. It has frequently been urged to their disparagement that they generate fungus in the process of fermentation to an extent that causes the destruction of large quantities of the plants that are grown in them. As far as my experience has gone, they are not at all apt to surpass in this troublesome propensity either of the other subjects usually employed for the production of bottom-heat. Indeed, I do not recollect to have seen this fungus more than once or twice. It spreads very rapidly after making its appearance, but it is instantly destroyed by taking the pots out of the place affected, and either mixing up with it a handful of common salt, or taking the batch entirely out, and introducing a forkful or two of fresh hops.

Besides being one of the most useful subjects for the production of bottom-heat, there is scarcely any soft-wooded plant that will not root freely into them, even when in a comparatively fresh state, and when they have rotted into mould. At the end of a year from the time they are

taken from the brewhouse, a first-rate material is produced for mixing with loam, or any other soil that may be used for striking or potting on soft-wooded plants. Some of the best fuchsias I ever saw, either for vigorous growth or size, and richness of blossom, were some grown by myself in the summer of 1861, in equal parts,

two-year-old rotted hops, and two-year-old road sand from a macadamized road. They are also very useful as a mulching material in the summer season for beds of asters, or similar things that delight in moisture, and in a medium into which they can produce abundance of roots.

Stamford Hill. W. CHITTY.

FRUIT CULTURE.

RED, WHITE, AND BLACK CURRANTS.

THESE useful fruits require so little care to insure an abundant production, that they are too frequently denied care altogether, and in consequence become unsightly, and give but a poor return for the ground they occupy. Yet to grow them well is of the very first importance, no less to the prince than the peasant, for not only are they the most wholesome and generally useful of all summer fruits, but in the form of preserves and jellies invaluable for winter use, either for the purposes of the cook or the wants of the sick-chamber. It is one of the joys of summer time to inhale from the lower regions the fragrance of the simmering jam when large supplies of the black and coral coloured fruits have been gathered and sent within doors, and when the store of apples and pears is getting low, how welcome are those savoury jam-pots that have been long hidden in the store cupboard, and which trip out of it at the festive season as if they belonged of right to the machinery of pantomime. Show me your currant bushes, and I will say at once if you are anything of a gardener. If these are not good examples of culture, I do not expect to see anything creditable, and I will never believe that a cottager is worthy of the gift of a dozen apple bushes unless I see first that he can grow currants to perfection. But there is no difficulty, and the whole subject may be dispatched in a few words.

climates are the better for some shelter from north and east winds. In the shade they do not ripen their wood properly, and the fruit lacks flavour. But the black currant thrives in moderate shade, and in making plantations of bush fruits the sunniest positions should be given to the first, and damp, shady positions, generally ill adapted for fruit culture, will serve admirably for black currants.

Any tolerably good loamy soil will serve for the culture of these fruits; but for red and white currants the soil should be moderately well drained. For black currants the drainage is of less consequence, though even these come to little good in places that are often water-logged. Drainage is, therefore, essential to all.

On chalk and sand the black currant produces small berries, unless abundantly manured, but moderate manuring will suffice for red and white currants on such soils, but to counteract the effects of drought, liberal mulchings of half rotten dung or grass, more or less, should be used during the summer, which will also tend to enrich the surface soil, and keep the trees in full vigour. Old garden soils intended to be planted with these fruits should first be trenched full two spits deep, and be well manured, and if the cultivator has command of plenty of oyster-shells, or old plaster, or any broken building refuse of a calcareous nature, it may be plentifully used to mix with the top spit, as these fruits are all partial to a moderate amount of the salts of lime in the soil. On cold

SOIL AND ASPECT.—Red and white currants require to be grown in full exposure to sunshine, and in cold

clays these fruits get infested with moss, and make much watery spray, so that it is only when two hot seasons follow consecutively that they make a good return of fruit. But the coldest clay may be improved by draining, and tempering its stubbornness by dressings of sand and dung, and by one way or another there is no reason why any garden in the kingdom should lack these essentials to the dessert.

PROPAGATION.—We strongly object to the use of layers and suckers, as lazy methods which produce bad plants. There is nothing easier in horticultural practice than striking cuttings of currant trees. Choose straight, plump, hard young shoots; cut them off near to the old wood; remove all the buds from the base and for six inches upwards, so as to prevent the growth of suckers and branches near the ground; cut away a few inches from the top, so as to insure growth at top from a strong bud. When prepared, the cuttings should be a foot long, and but five or six buds at the top only, none at the bottom. Plant these cuttings firmly in rows eighteen inches apart, the cuttings nine inches apart in the rows, any time from November to the end of February. We have put them in in April, and had them root well, but delays are dangerous; they ought always to be in their places by the end of January at least. Let them grow as they like the first year, and in the autumn prune back all the branches to five eyes each. The next autumn prune back again, so as to retain three or four well-placed main shoots, which will form the skeleton of the future tree. Plant them out two and a-half feet apart, in rows five feet asunder, in well manured soil, and the next autumn prune for bearing. The autumn following every other tree must be taken out; this will leave them five feet apart every way, which is none too much room. In this final planting, throw out all ugly and irregular bushes, and replace them with the best of those removed to make room.

PRUNING RED AND WHITE CURRANTS.—This is easy enough. It consists in simply cutting away com-

pletely all ill-placed shoots that cross the head, and cutting back all other young wood to two or three eyes from the growth of the preceding year. The fruit-buds are formed in clusters on the old wood, and at the base of the small slender side-shoots which arise on the main branches. In case of blanks and gaps in the head of the tree, a shoot arising lower down may often be turned to account to fill it up, hence it is as well at the first pruning to leave a few surplus shoots below the forks of those intended to form the head, and these can be kept stopped back so as to be available in case of need, as wherever there is a bud on the base of a shoot, strong shoots will always be formed in the growing season. But when a well-formed head is secured, all the shoots below it may be cut clean away, so as to leave a foot to eighteen inches of clear stem.

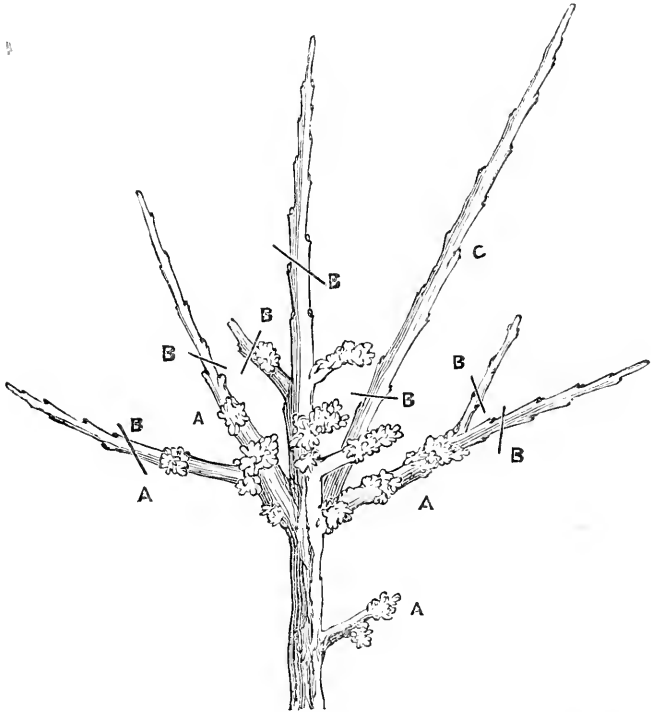
During summer it is as necessary to practise the pinching system of pruning with red and white currants as with pears, apples, and plums. The gain is immense in the formation of fruit-buds and the furnishing of the young tree, but when they get to a good size, they bear so abundantly that there is nothing gained by summer pinching. From the first any branch that starts up in the centre should be cut back to within three or four buds of the base, to be removed altogether if needful at the autumn pruning. At the beginning of July, all the small shoots that grow out from among the fruit-buds should be cut back to within three or four inches of the base, and all the well-placed shoots are to be stopped by nipping out the point.

Pruning the Black Currant is a more simple matter still, for it may almost be said that the black currant should not be pruned at all. All that is needful with these is to go over them once in the winter, and cut away to the base all ill-placed shoots, and to shorten back those that threaten to monopolize the sap, and for the rest let the trees grow as they please. Still the grower should have an eye to their general shape and contour, and as far as is possible without using the

knife severely, promote the growth of the trees in the form of diffuse pyramids, as that admits air most freely amongst the foliage, and allows of a large extent of bearing wood.

A Quicker Method of Raising Currant-trees.—Young wood of the preceding summer undoubtedly makes the best trees, but where it is an object to get them into bearing quickly,

chosen that each rod had on it a head ready formed. They were prepared with disbudded stems, fifteen inches long, and three or four shoots placed at equal distances, and were all planted in November in a piece of rich sandy loam. They were not allowed to bear the first season, though they would have done so, for they were of course loaded with fruit-buds. But the



A. Clusters of Fruit-buds. B. Pruning the young shoots.

wood of two or three, or even four, years old may be used. We have now a fine plantation of red currants that were all struck from rods as thick as a carpenter's pencil. They were selected from some old bushes that had to be destroyed, because they had not been pruned for ten years, and had become so infested with bearbine that it was impossible to restore them to decency, though, in spite of their wretched appearance, they bore tremendously. The cuttings were so

second season they bore well, and made a vigorous growth, and there was a saving as to their bearing capabilities of two years.

Currants as Espaliers.—Black currants serve very well to train to wires or fences, and make a good fence to divide the kitchen from the flower garden, as they retain their leaves till very late in the season, and may be allowed to grow rather thick, without injuring their fruitfulness. Red and white currants do not serve

so well for fences and wires because of their going out of leaf very early, and being at all times unattractive, except when loaded with fruit. But on a sunny wall or paling they ripen very early, and require only the removal of breastwood and the pruning already described for the formation of fruit-buds. These are quite unsuited for any fanciful modes of training, and it is waste of time to attempt to do anything more with them than form compact heads, open in the centre, on clean stems, free of suckers.

Standards.—Black currants are not adapted to form standards, but red and white standard currants make very interesting objects for the fruit garden, and in places closely walled in the standard form is the best to insure fruitfulness. To grow them, select straight strong cuttings, and leave only three buds at the top of each. Put a straight stake to each, and as the top shoot advances, tie it loosely to the stake, to prevent it taking the semicircular form common to the summer shoots of the currant-tree. When the top shoot has got the lead, cut back the other shoots to within three inches of the stem, and allow the leader to go up to four or five feet, and then nip out the top bud. The next autumn cut away all side-branches, close to the stem. The following spring the main stem will throw out shoots in abundance; nip them all back except the three best placed, and at pretty nearly equal distances apart at the top. Keep

nipping back the side-shoots all the season, but allow the three or four chosen to form the head grow their full length. The next autumn cut away all the side-branches, and shorten back the branches of the head to four eyes each. After this, prune as advised before, and never allow any shoots on the stem. Standards will require to be securely staked to prevent damage by wind.

SELECTION OF VARIETIES.

For Gardens exposed to the East, and for Cold Clay Soils.—Ogden's Black, a very hardy black currant, bearing fine berries; Red Dutch, red; La Fertile, very prolific; White Dutch.

For Gardens favourably situated, and with good Loamy Soils.—Black Naples, the finest black currant; Cherry, the largest red, very early; La Hative, very early and fine, red; Knight's Large Red, large bunches and fine berries; Victoria, a fine late red, useful to grow on north walls, to keep netted for use in autumn; Transparent White, long bunches, amber-coloured berries; White Dutch, excellent and well known.

The only way to secure currants from the depredations of birds is to cover the trees with cheap netting. This is better than abusing or killing the birds. It is certain they do devastate the crop if allowed; but we want their services in other ways to keep down the vermin, so killing is bad practice.

A WINTER GARLAND.—CLIMATE OF TORQUAY.

WE have frequently published stray notes on the climate of the south-west of England, and from correspondents there have occasionally received remarkable evidences of the comparative immunity from cold enjoyed by the counties of Dorset, Devon, and Cornwall, where the full influence of the gulf stream is felt, and the whole breadth of the island at its widest part is interposed to break the force and temper the keenness of the east winds so prevalent during the early months of the year. But we never

had such agreeable evidences of the favourable circumstances under which horticulture may be pursued in Devon as we have had this year. On Christmas morning we received from our esteemed correspondent, A. B. Sheppard, Esq., of Torquay, a large box of most beautiful flowers, all gathered in the open air from one of the hills of Torquay on the day previous. We shall cheerfully forgive any reader who doubts the accuracy of the list, for to Londoners and those farther north it will, we are sure, look more

like fiction than truth. However, true it is that the three separate boxes of flowers came to us as fresh as if just gathered from our own garden, a few with enough weather stains to prove that they were genuine outdoor specimens. So the flowers themselves told the whole story, and the kindness of the friend who furnished our breakfast table on Christmas morning with a true summer garland had a fit expression in the freshness of the gift, for the roses, violets, and coltsfoots filled the room with their delicious fragrance, and made us reflect upon the cheapness of happiness for those who have some true love for things that gratify only the sense of beauty, and that put to shame every sordid thought. But here is the list:—

Flowers gathered from the open ground at Torquay, Dec. 24, 1862.—*Ageratum mexicanum*, *Alyssum saxatile*, *Arabis alpina*, *Arbutus unedo*, *Auricula*, *Aubretia purpurea*, *Berberis Darwinii*, fine racemes of vividly-coloured orange blossoms; *Centranthus coccineus*, *Coronilla glauca*, common coltsfoot, *Chrysanthemums*, General Canrobert, in fine condition, *Christine* and two others; *Daphne collina*, *Escallonia floribunda*, and another *Escallonia* with rosy flowers, which we do not know; *Erica herbacea*, *Garrya elliptica*, *Gazania splendens*, as fresh as in August; geranium Commander, and two others, these a little weather-stained, not by cold, but wet; *Gentiana acaulis*, *Helleborus niger*, common heartsease, *Lobelia speciosa*, *Jasminum nudiflorum*, *Lauristinus*, *Linum flavum*, *Marigold*, a charming double flower of a variety we are not acquainted with; *Mignon-*

ette, *Polyanthus*, *Sweet scabious*, *Sweetwilliam*, *Roses*, several, all teas, and *Gloire de Dijon* in most perfect condition. *Stocks* single and double, quite fresh and fragrant, *Rhodanthe Manglesii*, *Tritoma glauca*, *Ulex europæus* fl. pl., *verbenas* of several kinds in rather poor condition, *Veronica Andersonii*, *Vinca minor*, *violets* in profusion, *variegated dead-nettle*. On the 10th of January we received a second box, the contents of which were as follows:—

Flowers gathered from the open ground at Torquay, Jan. 9, 1863.—*Auriculas*, *Anemone hortensis*, *Bellis perennis*, *Coronilla glauca*, *Daphne collina*, *Erica herbacea*, *Cistus albidus*, *Escallonia Monte-Vidensis*, *Helleborus niger*, *Hepaticas* of sorts, *Phlox*, *Polyanthus*, *Lycaria cymbalaria*, *Jasminum nudiflorum*, *Lauristinus*, *Pansy*, *Roses* of five kinds, all teas, *scarlet Geranium*, *Stocks* single and double, *Wallflower* double yellow; common *Primrose* and double red *primrose*, *Violets* in profusion, deliciously fragrant.

We have yet a third gift to acknowledge. On the 16th of January came a bright little bouquet of *Snowdrops*, *Violets*, and *Crocuses*, *Hepaticas*, *Auriculas*, *Polyanthuses*, and *Berberis Darwinii*.

We should like to write an essay on these flowers. We would invoke all the muses to celebrate the gift, and crown with a chaplet of amaranths the brow of the giver. But it is not every wish that can be gratified. All we can do now is to wish health, happiness, and long life to our generous correspondent, Mr. A. B. Sheppard, of Torquay.

COUNTRY FLOWER SHOW.

"S. R." writes to ask what subjects it would be prudent to include in the schedule of a small exhibition of a Cottage Garden Society, where the exhibitors are mostly amateurs of small means, and some not even possessed of as much glass as a cucumber frame. The show is to be held in September in a small country town. Our reply must be brief. In the first place we should give prominence to

useful subjects, but not to the exclusion of the ornamental. Gourds and cucumbers should take the lead to make the show interesting to visitors, and to stimulate the growers. We would have several prizes for gourds, both edible and ornamental, and a special prize for the best collection of both. Potatoes, onions, broccoli and cabbage, celery, and turnips, parsnips, carrots, mangolds, to be dealt with

liberally, and the potatoes to be shown in baskets of three, six, nine, and twelve sorts, to be correctly named. Also one or two prizes for best seedling potatoes, and, if possible, special prize for the best crop of potatoes, quantity and quality combined, and a single rod to be computed on the ground of each competitor. Small and few prizes for peas, beans, cardoons, kale, sprouts, beet, lettuce, tomatoes, yams. Among flowers, fuchsias, geraniums, roses, pansies, hollyhocks, asters, balsams to take the lead. Among fruits, apples, pears, plums, and apricots to take the lead. A few others, such as melons and peaches, may be entered, though not likely to be shown, but the mention of such things in a schedule is good for cottagers, provided they are somewhat within the scope of a working man's practice.

Special prizes for best collections

of hardy border flowers, best collections of wild flowers, grasses, and hardy ferns. These are always to be encouraged at cottage garden shows, and a few shillings will suffice to drive the children mad with joy in hunting up wild flowers and grasses. Also one or two prizes for best boxes or cups of honey taken by depriving only; two or three prizes for bouquets; a few prizes for flowers grown by children. Money prizes must be offered to some extent, but we should advise that a preference be given as far as possible to articles of use and ornament that are likely to remain for years in possession of the winners as souvenirs of the show. Such, for instance, as beehives, hydropulps, ornamental pots and vases, books, garden-tools, handlights, etc. If there is to be any festivity, let it be a good tea and cheerful addresses, and let the children come in thousands.

A SELECTION OF ANNUALS FOR ALL PURPOSES.

Those marked H. H. are Half Hardy.

ANNUALS FOR MASSES.

White.—Candytuft, Helychrisum macranthum, Venus's Navel-wort, Alyssum maritimum, Campanula Lorei alba, Clarkia alba, Clintonia pulchella alba, Collinsia bartisiæfolia alba and bicolor candidissima, Convolvulus minor alba, Datura fastuosa alba, Escholtzia alba, Silver Hawkweed, White Larkspurs, Lobelia erinus alba, Mesembryanthemum crystallinum (H. H.), Nemophila insignis alba, Phlox Drummondii alba (H. H.), Portulacca alba (H. H.), Schizanthus priesti, Zinnia elegans, Virginian stock.

Yellow.—Escholtzia crocea, Lupinus luteus, French Marigold, CEnothera Drummondii nana, Chrysanthemum tricolor, Cheiranthus Marshalli, Coreopsis Drummondii, Calendula hybrida, Datura flava plena, Erysimum Petrowskianum, Gaillardia bicolor (H. H.), Yellow Hawkweed, Helychrisum capitatum, Madia elegans, Martinia lutea (H. H.), Nasturtium trimaculata (dwarf.)

Red and Crimson.—Amaranthus caudatus, Nasturtium "Tom Thumb,"

Lobbianum (H. H.) Triomphe de Gand (H. H.), Saponaria calabrica (pink), Salpiglossis atrosanguinea, Callandrina discolor, Clarkia pulchella, Godetia bifrons, Alonsoa Warscewiczii, Calliopsis atrosanguinea, Iberis kermesina, Centranthus macrosiphon, Clintonia atrocineria, Dianthus hybridus atropurpureus, Limnanthes rosea, Malope grandiflora, Zinnia elegans, coccinea, and kermesina.

Lilac and Blue.—Nemophila insignis, maculata, and cœlestis, Lupinus nanus, Abronia umbellata, Ageratum Mexicanum, Anagallis Indica, Browallia grandiflora, Iberis lilacina and umbellata, Clarkia elegans, Clintonia elegans and pulchella, Commelina cœlestis, Convolvulus minor, Godetia Wüldenovi, Ipomea nil (trailing), Lobelia erinus and speciosa, Veronica Syriaca.

SWEET-SCENTED ANNUALS.

Yellow Lupin, Mignonette, CErinthe auriculata, Hibiscus Africanus, Sweet Pea, Martynia fragrans, Sweet Scabious, ten-week and German stocks, Sweet Sultan.

ANNUALS OF TALL GROWTH FOR THE SHRUBBERY.

Californian Sunflower, Giant Prince's Feather, Malope grandiflora, Love-lies-bleeding, Argemone grandiflora, Cannabis gigantea, Centaurea cyanus major, Chenopodium atriplicifolium, Convolvulus major, Helinium Douglasi, Ipomopsis elegans, Loasa Herberti, Lupinus mutabilis and Cruikshanki, Nicotiana glauca, Ricinus Africanus (H. H.)

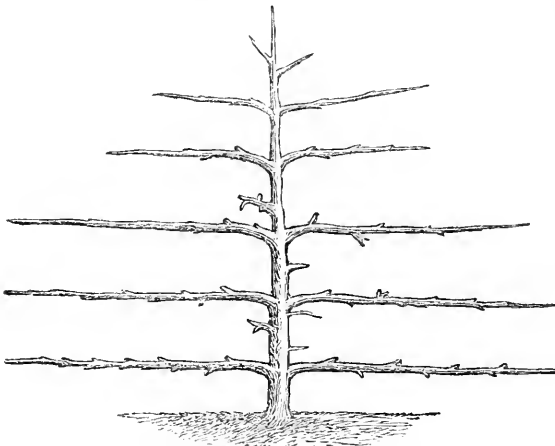
ANNUALS WITH ORNAMENTAL FOLIAGE.

Atriplex hortensis rubra, Amaranthus melancholicus ruber, rich red, Ricinus communis (H. H.), Brazilian and crimson-topped Beet, Cannabis, various (may be planted out and kept over winter if taken up before frost), Chenopodium atriplicifolium (purple), Milk-thistle, Perilla nankinensis (purple), Venus's Navel-wort, common Garden Beet.

 ESPALIER TREES.

ESPALIER trees are rarely to be seen so well trained as they are represented in diagrams. In spite of the utmost care robber shoots will break out where not wanted, and sometimes get far ahead without detection. In other cases breaks cannot be got with such regularity as to furnish the tree throughout with the uniformity of a drawing made with rule and compasses. But as an early habit of fruitfulness may be certainly promoted by good training, and as all the errors of the cultivator even for years past are revealed on the first

Espaliers are used to cover walls and fences, and to form boundary lines to walks. When the trees are received from the nurseries their general outlines are already formed, and the cultivator will have to prune and train in such a way as to get the trees regularly furnished without crowding and without allowing breast-wood to spoil the plan. Volumes have been written, and may be written again, to illustrate the various modes of training, and after all the cultivator will have to learn much by observation and practice, and must expect to



HORIZONTALLY-TRAINED PEAR-TREE.

glance at a lot of espaliers, it is important to give some special attention to this department of practice.

and must expect to make a few mistakes even with the best of books to guide him. Our intention now is to offer a few observations of a general kind for the guidance of a few correspondents who ask for advice before it is too late to plant trees this season.

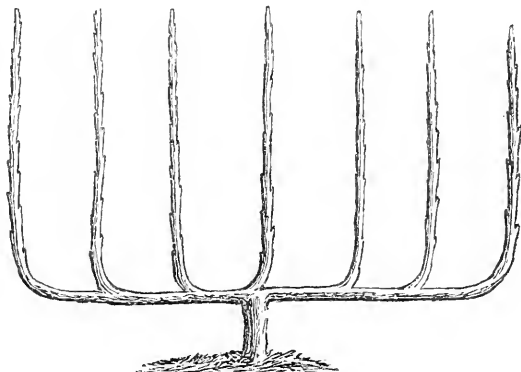
The simplest of all trellises for the boundary walks of a kitchen garden is one formed of oak posts and galvanized wires. The distances between the wires and posts

must vary with circumstances. In our own garden we have a trellis for pears and apples, which consists

of oak uprights six feet apart and a light upright deal lath to give support to the wires midway between each two posts. The wires are twelve inches apart, and the trees are all trained horizontally. We have never seen any evil results from the use of metal, and do not scruple to recommend it. But light laths can be used by those who prefer wood, and the metal can be improved by painting it. For these espaliers the best forms for apple, pear, and plum trees are the horizontal and the upright, mode of training. But there is a marked difference in the behaviour of trees trained on various methods. Trees allowed to grow naturally upright grow with much more vigour than when fan or horizontally trained, and they are longer in coming into bearing. There is no quicker method of insuring a fruitful habit in espaliers than by horizontal training, as in the annexed sketch. When received from the nursery such a tree will perhaps have a strong leader and one or two side-branches. The leader should be cut back to within two or three buds

in the secondary growth two leaves from the base, and most of them will form fruit-buds and produce fruit the next year. Gross shoots that get ahead unnoticed on the breast of the tree or on the side-branches should as soon as discovered be first pinched. In the course of a fortnight about a third of their length should be cut away, and towards the end of the season they should be reduced to about three buds at the base, one or two of which will originate blossom buds. At the end of the season cut back the leader again to within about three buds of the topmost lateral branch, and the next growth will probably soon reach the top of the trellis, at which point take out the top-bud and allow the side-buds to push and furnish the top rail.

In upright training the trees will exhibit greater vigour of growth. There should be retained, to commence with, a leader and two side-branches as nearly opposite each other as possible. Choose a plump bud placed at the upper side of each side of these branches, at the distance of ten or



UPRIGHT-TRAINED PEAR-TREE.

of previous seasons. Wherever shoots break in positions suitable to train in to the wires, tie them loosely as they grow, that they may have a proper direction from the first, and do not stop them at all. All other buds that break where not wanted, and threaten to form strong shoots, should be pinched in to three leaves from the base, and if they push again pinch

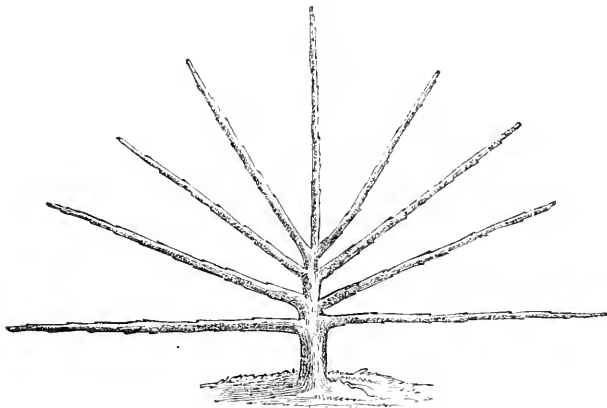
twelve inches from the leader, and cut the side-branch back to bud next beyond that bud. The last bud will push on, and is to be trained horizontally, the next will push upwards, and is to be trained to form the first upright next the central rod. This central rod at the first pruning is to be cut back about half its length. All through the season strong growths

out of place are to be cut away to within one bud of the base, and when this bud pushes pinch it in, and it may be induced to form a fruit spur. The next autumn choose again two buds on each side, one to lead on, the other to furnish the next upright rod on each side of the former two. Repeat this the next year, and every year cut back the growth of the year at least half its length, or if the shoots are very gross cut back two-thirds. The result will be a regularly proportioned tree as in the sketch, and a regular disposition of fruit spurs. Espaliers of this kind should be trained to upright rails or wires.

Fan training is best adapted for walls, and the peach, apricot, plum, and cherry thrive by this system, which admits of a perpetual system of renewal of bearing wood in any

peach, nectarine, and apricot (with the exception of the Moor Park) bear on ripe shoots of the previous year, and to keep up a succession of shoots for bearing is the main object when the outline of the tree has been formed. The Moor Park apricot bears on spurs two or three years old, and in vigorous trees the main stem and the principal branches will generally be found to be furnished with these in abundance.

In training to walls it is the best plan to attach laths or wires, and the latter are the neatest and the cheapest, and to tie instead of nailing. This saves the wall from damage, brings the trees under more perfect control, and to some extent prevents the injury arising from vermin. In clothing high walls with trees, it is a good plan to plant standards and dwarfs



FAN TRAINING.

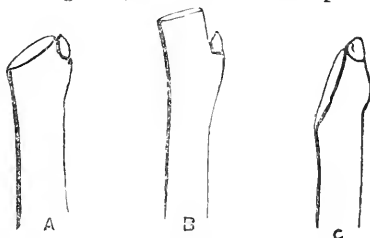
part of the tree. Supposing a young tree intended for this kind of training to be planted, the leader would require to be cut back quite two-thirds of its length, that is to say, two-thirds of its length should be removed, and the side-branches need only be moderately shortened to remove any weak and immature points of the shoots. These side-branches will probably form fruiting wood the first season, and bear the next year, and the leader will throw out a series of branches for training in the fan form at regular distances. The

alternately, the latter to be trained right and left in the spaces left open between the stems of the standards. The free use of the knife in the first instance, is of the utmost importance, as if the trees are trained with a view to length only, they soon become bare and unsightly on the lower parts of all the main branches.

A word of advice on the subject of pruning may be useful to the inexperienced. From the appearance trees sometimes present in private gardens, one might suppose them to be pruned with a knife and fork. The

knife should be used decisively, and when the wood is too stout for the knife, a fine saw should be used instead, and the sawn surface should be smoothed over with the knife, and the edge of the bark be neatly bevelled off all round. Here are three figures, three modes of using the knife in pruning. Fig. A is a good cut, and will heal perfectly by the formation of a ring of bark, which in time will close over the top of the wood, and the bud left will prosper. Fig. B is cut too far above the bud, and the internod left; that is, the wood left above the bud will die, and will, if

left alone, send a wedge of dead wood down behind the bud. Fig. C is a slivering cut; the bud left will pro-



bably grow for a time, and perish before the season is out.

FEBRUARY, 1863.—28 DAYS.

PHASES OF THE MOON.—Full, 3rd, 10h. 25m. after.; Last Quarter, 11th, 10h. 46m. morn.; New, 18th, 3h. 6m. morn.; First Quarter, 25th, 0h. 34m. after.

D M	Sun rises.	Sun sets.	Moon rises.	Moon sets.	Weather near London, 1862.						Rain.	THE COUNTRY.
					BAROMETER.		THERMOMETER.			The Garden and the Field.		
					Mx.	Min.	Mx.	Mn.	Me.			
	h. m.	h. m.	Aft.	Morn.								
17	42	4 46	2 41	5 58	29.96...	29.81	54...	44...	49.0	.00	Cornelian cherry fl.	
27	40	4 48	3 46	6 30	30.08...	30.01	53...	44...	48.5	.00	Spring bulbocodium	
37	38	4 50	4 54	6 55	30.12...	30.10	55...	41...	48.0	.00	Spurge laurel fl.	
47	37	4 52	6 3	7 16	30.18...	30.10	55...	42...	48.5	.00	Elder foliates	
57	35	4 54	7 11	7 36	30.01...	29.94	56...	39...	47.5	.00	Field speedwell fl.	
67	34	4 55	8 23	7 56	29.94...	29.92	50...	29...	39.5	.00	Japan quince fl.	
77	32	4 57	9 33	8 15	30.29...	30.06	39...	20...	29.5	.00	Butcher's broom, fl.	
87	30	4 59	10 48	8 35	30.55...	30.52	35...	18...	26.5	.00	Strawberrycinquefoil fl.	
97	28	5 1	Morn.	8 58	30.53...	30.51	40...	30...	35.0	.00	White alyssum fl.	
107	26	5 3	0 3	9 24	30.48...	30.31	45...	18...	31.0	.00	Crocus fl.	
117	25	5 5	1 17	10 0	30.23...	30.08	44...	30...	37.0	.01	Primrose fl.	
127	23	5 6	2 31	10 44	30.02...	29.97	48...	31...	39.5	.00	Yew fl.	
137	21	5 8	3 38	11 40	30.04...	30.00	39...	33...	36.0	.00	Stinking bear'sfoot fl.	
147	19	5 10	4 35	After.	30.05...	30.03	44...	34...	39.0	.00	Whitlow grass fl.	
157	17	5 12	5 19	2 8	30.10...	30.03	45...	30...	37.5	.06	Groundsel fl.	
167	15	5 14	5 57	3 31	29.96...	29.68	45...	33...	39.0	.14	Henbit-deadnettle fl.	
177	13	5 15	6 27	4 55	29.47...	29.37	48...	38...	43.0	.02	Coltsfoot fl.	
187	11	5 17	6 50	6 18	29.36...	29.27	53...	39...	46.0	.09	Spring crocus fl.	
197	9	5 19	7 14	7 37	29.54...	29.42	55...	44...	49.5	.06	Barren strawberry fl.	
207	7	5 21	7 34	8 53	29.64...	29.47	58...	29...	43.5	.00	Cotton grass fl.	
217	5	5 23	7 57	10 8	29.91...	29.78	58...	39...	48.5	.00	Daisy fl.	
227	3	5 25	8 20	11 21	29.82...	29.66	56...	40...	48.0	.01	Lesser periwinkle fl.	
237	1	5 26	8 47	Morn.	30.10...	30.04	51...	34...	42.5	.00	Mouse-ear fl.	
246	59	5 28	9 19	0 28	30.12...	29.96	41...	35...	38.0	.00	Brittle willow fl.	
256	57	5 30	9 57	1 31	30.16...	30.03	41...	32...	36.5	.00	Sweet-scented violet fl.	
266	55	5 32	10 4	2 27	30.31...	30.28	36...	34...	35.0	.00	Alder fl.	
276	53	5 34	11 3	3 26	30.20...	30.04	37...	32...	34.5	.00	Creeping crowfoot fl.	
286	51	5 35	After.	3 55	30.03...	29.93	44...	34...	39.0	.00	Spot-leaved hellebore fl.	

THE GARDEN GUIDE FOR FEBRUARY.

KITCHEN GARDEN.—There should be no delay in getting ready every inch of ground intended for summer crops. We shall probably have an early spring, and it will be well to risk a little more than usual in early sowings of crops, that come in quick, as in the event of late frosts protective measures may be resorted to, and the loss of seed is not a great matter compared with the probability of extra early produce. Get all plots requiring manure ready at once, as it is much better to have the ground prepared in advance, that the manure may be more completely incorporated with the soil, than to sow or plant immediately after manuring. Ground for peas, beans, onions, cauliflowers, and broccoli must be liberally manured and deeply stirred. Mark out the soil for onions into four-foot beds, and raise the beds six inches above the general level, and leave the surface rough. At sowing time the surface will be nicely pulverized through exposure to the air, and the seed can be sown clean and rolled in firm, which is not always possible where the ground is in a pasty condition, or has been but recently made ready. Choose for potatoes ground on which cabbage, or broccoli, or celery has been grown, and which for those crops was well manured last year. Make up sloping borders under warm walls and fences for early lettuce, radish, onion, horn carrot, and to prick out cauliflower and broccoli from seed-pans, etc. On dry soils plant the potatoes as soon as possible; sets should be of moderate size, and with short stubby, hard sprouts upon them; when the sprouts are long and white, it is scarcely reasonable to expect a sound and plentiful production. On wet soils it will be best to defer planting the main crop till next month. To raise a few early potatoes, the simplest method is to make up a slight hot-bed, and cover it with old lights, or canvas on hoops, or even hurdles or mats will do, as by the time the haulm appears, the season will be sufficiently advanced to allow of taking off the covering by day, putting it on at night, however, to keep safe from frost. If there is plenty of charred refuse, use it liberally in making up the bed, and cover the sets with some of it reserved for the purpose. The main crop of potatoes should be planted at greater distances between the rows than is usually allowed; two feet apart and nine inches between the sets should be the least distance for moderate growers, and three feet apart and

a foot or more between the sets for robust growers. When growers complain that their potatoes have "run all to haulm," it may always be understood that they are planted about twice as thick as they ought to be.

Sow in the open quarters, peas, beans, parsnips, spinach, leeks. *Sow on warm slopes*, radish, hardy lettuce, cabbage, parsley. *Sow in heat to transplant*, Spanish and Portugal onions, cos and cabbage lettuce, celery, tomatoes, capsicums, melon, cucumber, cauliflower, sweet basil, sweet marjoram.

Plant potatoes, garlic, shalot, chives, onions for seed.

FLOWER GARDEN.—Deciduous trees remaining to be planted should be got in without delay. Fork over mixed borders where it can be done without fear of damaging peonies, bulbs, etc.; but if these are not tallied it will be best to leave the borders alone till the plants are visible above ground. Lay on a good mulch of half-rotten dung in quarters devoted to roses, or cover the surface with a mixture of guano and wood-ashes. Old plantations of Americans will be benefited now by dressing the surface with very rotten cow-dung, but they must never be dug between. Edgings, rockeries, walks, lawns, peat-beds, and roseries may all be made or planted this month, and the sooner the better. On all these subjects abundant information may be found by reference to indices of former volumes. Part and plant herbaceous plants. Plant ranunculuses and anemones.

Sow hardy annuals in pans to get them forward for planting out. Californian annuals, such as Clarkias, Godetias, Escholtzias, Viscarias, Nemophilas, Candytufts, etc., may be sown in the borders where they are to bloom. In another page will be found a list of annuals for all purposes.

GREENHOUSE.—Fire-heat may be used more liberally now, as there is more light and many early subjects are advancing into bloom. Put cinerarias, primulas, and other soft-wooded, early-blooming plants, as near the glass as possible, and where they can be freely ventilated on fine days. Give plenty of water to everything that is growing freely. Hard-wooded plants that have been kept dry all winter, will probably need to be plunged to the rim of the pot in a vessel of tepid water, to soften the ball of earth, and allow water to pass

through freely. When this is not done in spring, it often happens that having once got dry the water never afterwards wets the roots properly, but runs away down the sides of the pots, and after languishing some time, the plants die altogether. Get all stove plants from cutting-pans and boxes potted off. Staut old plants of bedders to get cuttings, and put in cuttings as soon as they can be taken to have the bedders forward in time to plant out strong. With the rise of the thermometer there will be an increase of green-fly, and plants with soft leaves will be attacked first. Look to the under sides of the leaves of cinerarias, calceolarias, pelargoniums, etc., and if any fly, put the plants together in a box and fumigate, or fill the house with smoke, and syringe next day. In private collections, fumigating-houses ought never to be needful. A plant here and there may be affected, but from single plants the fly can be easily removed with a soft brush, or by dipping in weak tobacco water. All hard-wooded plants coming into leaf to be freely syringed. Temperature 45° at night, 55° to 60° by day. Bottom heat for cuttings, 60° to 70°.

COLD FRAME.—Remove all dead leaves. Keep the shelves or plunging material moderately dry, give air as often as possible. Tender plants that have been wintered in cold frames must have very little water at present; they may be growing in consequence of the mildness of the weather, yet as frosts may visit us, much moisture at the root will render them miffy, and losses may occur. But nothing should be allowed to get dust dry, it is most injurious. Ferns and calceolarias may have water freely if well drained.

VINERY.—Where the vines are breaking promote a moist state of the atmosphere, this is favourable to a healthy leaf growth, and on that will chiefly depend the quantity and quality of the produce. Vines coming into bloom to be kept rather dry. Vines not yet started may be greatly assisted by making up a bed of fermenting dung in the middle of the house; the warm vapour from this will be very beneficial. If the vine border is at all dry, give it a good soaking with tepid water. See that all bearing rods are neatly trained; if any pruning neglected, attend to it at once. Vines bleeding through being pruned too late may be stopped by cutting raw potatoes to fit tight over the wound.

FLORISTS' FLOWERS: *Auriculas.*—Water gradually as they show signs of growth, and top-dress the pots with well-decayed cow-dung. Give plenty of air, and beware of damp. As auriculas are

forward this season, they will require extra care in the event of late frosts.

Carnations and Picotees.—Put out the whole stock of carnations, picotees, and pinks in the first warm shower we have, and defer watering them as long as will be safe to do so, in order that they may derive full benefit from the rain. Keep the plants hardy, and make ready for repotting. Turn over the compost intended for them, and make careful search for wire-worm.

Cinerarias will now want regular attention to preserve a healthy foliage, as well as secure a good bloom. Drought will do them much harm, but they must have plenty of air, after being watered, to get their leaves dry before night. Green-fly will now infest them unless kept in check. Put the forwardest in the house for blooming.

Camellias are now coming into bloom, and need occasional doses of weak liquid manure, and frequently syringing of the foliage. It would be well to go over the whole stock, and sponge every leaf with tepid water, which will give the plants a bright and beautiful appearance, and very much promote their health. A hundred may be sponged in the course of a morning, when the weather does not allow of out-door work; the sponge will remove soot and dust more effectually than the syringe. Plants done blooming must be kept warm, and enjoy a moist air. Camellias in bloom keep at 45° by night, and 55° to 60° by day, and with plenty of water. Plants for late flowering keep only just safe from frost.

Fuchsias.—Start the plants into growth, and when well broken repot. Cuttings struck now will make good plants this season.

Hollyhocks may be increased from cuttings in a gentle heat, and seeds of choice kinds may be sown with others in a warm pit, or Waltonian case. Get the stations ready for those to be planted out this spring. Dig deep, and manure well with rotted cow-dung.

Tulips.—Protect from heavy rains and severe frosts, but never leave the coverings on one hour more than needful, for they never bloom well if made tender. When the foliage shows regularly over the bed, stir the surface between the rows with a small three-tined fork.

Pelargoniums ought now to be growing freely, and on warm bright days should be watered so as to soak the ball and bring every rootlet into action. Use heat enough to allow of air being on all day. In bright weather sprinkle the floor of the house to create a humid atmosphere.

TO CORRESPONDENTS.

CATALOGUES RECEIVED.—"A Catalogue of Stove, Greenhouse, Hardy, Exotic, and British Ferns. A. Stansfield and Sons, Vale Nurseries, Todmorden."—"W. Wood and Son's Catalogue of Seeds, with an Appendix comprising Roses, Fruit-trees, etc., Woodlands Nursery, Maresfield, near Uckfield, Sussex."—"Sutton and Sons, Royal Berkshire Seed Establishment, Reading. Spring Catalogue and Amateur's Guide for 1863." It comprises lists of kitchen and garden seeds and roots, flower-seeds, and plants, and agricultural seeds. It is one of the best known of the trade catalogues, and one of the first in which cultural directions were combined with prices and descriptions.—"Barr and Sugden, King Street, Covent Garden, Guide to the Kitchen Garden," a compact, explicit, and trustworthy guide to the culture of edible crops.—"B. S. Williams, Paradise Nursery, Seven Sisters Road, Holloway." A bulky list, comprising eighty pages of close print, containing a good list of novelties, and a list of bulbs for spring planting.—"Butler and McCulloch, Covent Garden, London, W.C., Spring Catalogue, 1863, of Choice Flower, Shrub, Tree, and Vegetable Seeds." A well-arranged list, extending to a hundred pages, and is in every detail satisfactory.—"W. Thompson, Tavern Street, Ipswich, Descriptive Catalogue of Annual, Biennial, and Perennial Flower Seeds from Continental and English Growers." Mr. Thompson is well known as the author of the "Gardening Book of Annuals," and one of the best authorities on herbaceous plants.—"Plymouth Seed, Agricultural Implement, and Manure Company, Price Current of Kitchen Garden, Flower, and Farm Seeds." A good list of all the useful subjects required this season.—"W. Cutbush and Son, Nurseries, Highgate, London, N., Catalogue of Vegetable, Flower, and Farm Seeds." It is a catalogue of more than average merit, and the varieties enumerated show that Messrs. Cutbush have laboured hard to include all proved advancements in the several classes.—"T. Illman, Strood, Kent, Catalogue of Stove, Greenhouse, Hardy Exotic and British Ferns," being a priced list of 872 species and varieties, and a good list of Selaginellas.

QUINCE STOCKS.—*W. M.*—Cuttings of ripe shoots of the thickness of a common lead pencil and four inches long, make the best plants for stocks. They may be put in now in precisely the same way as currant stocks. We have had them root well when put in as late as April, but of course the earlier the better.

VARIOUS.—*Young Waltonian.*—See p. 248 of the volume for 1861.—*Constant Subscriber* may move the Portugal laurels in April; the work must be done with care and plenty of hands, so that there need be no harm done for lack of lifting power. If constantly wetted overhead all the summer, they will recover in a year, but are sure to look poor for at least one season. We had the golden balm from Messrs. E. G. Henderson, of St. John's Wood. We know that Mr. Salter, of Hammersmith, has it.—*Correction*, Jan. No., p. 11, second column, lines 5 and 6, read, "beautiful kinds lose character."—*A. P. M.*—Along the front a stone shelf, 2 ft. 6 in high at back, a rising stage, with shelves of inch deal, bottom shelf to be level with the front shelf. At back you might have a brick pit of ten feet to contain tan, or any other fermenting material. Your letter came too late, or would have had a fuller reply.

SELECTION OF PANSIES.—*A. H. Turner.*—The following are 48 superb varieties, which, when well grown, cannot be beaten. *Selfs*: Charles Watson, Alex. McNab, Admiral Dundas, A. McKeith, Black Prince, Eclat, General Vernon, Imperial Prince, Ladyburn Beauty, Maid of Bath, Miss Carnegie, Mr. J. Graham, Mr. J. White, Nepaulese Chief, Othello, Rev. H. Dombrain, Rev. J. Dix, Royal Purple, Titan. *Yellow Grounds*: Blinkbonny, Count Cavour, Dr. Stewart, Duchess of Wellington, Duke of Cambridge, Francis Low, General Young, Hugh Miller, Isa Craig, Lord Clyde, Lord Cardigan, Mrs. Downie, Mrs. Hope, President, Prince of Wales, Richard Heady. *White Grounds*: Countess of Rosslyn, Duchess of Hamilton, Duchess of Kent, Fair Maid, Great Northern, Mary Lamb, Mrs. Baston, Mrs. Laird, Nymph, Royal Standard, Seraph, Una. The best in your list are, Miss Talbot, Blinkbonny, Dr. Fleming, Purple King, Duchess of Wellington, James Peddie,

Lady Jane, Sir Colin Campbell, Rev. J. D. x, Miss Lamb, Mrs. Downie, Lady Nicholson, Sarah, Duchess of Hamilton, Mr. J. White, Perfection, Cyrus, Mrs. Laird, Alex. McNab, Gem, Fair Maid. Throw out all the others. You can easily correct the spelling of the names in your own list by obtaining the catalogue of Messrs. Downie and Laird, Forst Hill, or some other growers of pansies. We cannot afford space for such corrections, which would be of no use to any but yourself.

TIFFANY HOUSE.—*Alph.*—The plants for a tiffany-house should be of kinds usually considered hardy, but which are worth shelter from the horrible east winds which usually prevail in this country in spring. Roses, Escallonias, Myrtles, Eugenias, *Aspidistra lurida* var., *Farfugium grande*, Hydrangeas, shrubby Veronicas, *Azalea amena*, and a few others that require a little shelter. Sikkim Rhododendrons, perhaps, *Desfontainia spinosa*, perhaps, *Metrosideros*, *Statice Fortunei*. The hardest climbers to train up the rafters, and to intercept very little light, are, *Passiflora cerulea*, *Calampelis scabra*, *Hibbertia volubilis*, *Lonicera Japonica*, *Rhynchospermum jasminoides*. We wish you to bear in mind that we have frequently warned our readers not to trust to tiffany to protect any tender, soft-wooded plants during severe frost. If you want a gay garden under canvas keep to things that are nearly hardy, and to make a few festoons overhead, trust rather to quick-growing climbers, such as cobeas, convulvuluses, *lophospermum*, etc., etc.

FERN CASES.—*M. S.*—All the ferns you name are suitable to grow in a glass case. The following among those you name are the most tender:—*Phlebodium sporodocarpum*, *Hymenolepis spicata*, *Aneimia collina*, *Cheilanthes farinosa*, but easy to manage if you keep the bottom-heat steady by regularly supplying the tank, and plant them all at the hottest end. The following are a few degrees hardier:—*Asplenium polymorphum*, *Lomaria attenuata*, *Pteris cretica*, *Todea pellucida*, *Doodia caudata*, *Adiantum assimile*, *Asplenium septentrionale*, *Scolopendrium vulgare multifidum*, *Allosorus crispus*. You have made a very interesting selection. You had better wait till the end of March before ordering the first four, or they may miss the move from the nursery stove in the event of cold weather. Give *Plumbago capensis* a shift in April, use good fuchsia compost. In June place it out

of doors, and if it has plenty of water it will flower abundantly.

POLYPODIUM CAMBRICUM.—“Mr. Hibbert has pronounced *P. cambricum* as not fertile. I send a fern which I suppose to be *cambricum*. It was found near Dublin; it is a fertile specimen, and there are many such in the same spot, which is near water.”—*Dublin Subscriber*. [The fern sent is *P. Hibernicum*. It is no easy matter to maintain a negative proposition, but as we have never seen a fertile specimen of *cambricum*, and have never heard of the finding of one, we must still consider barrenness one of its characteristics.]

PRUNING ROSES.—*B. H. M.*—Your neighbour, who is a successful rose-grower, and who never prunes till April, is the proper example for you to follow. The FLORAL WORLD has always advised late pruning of all the autumnal bloomers of high merit, because it is so dangerous in this climate to have the lower buds pushing before the spring frosts are pretty well over. Cabbage and moss, and most other summer roses may be pruned earlier than the perpetuals; we always prune the cabbage and common moss during winter, at the same time as bush fruits, but being exposed to the north, we rarely prune perpetuals till April, or near it. But it depends very much upon what part of England you write from; we cannot discover by your letter. If you date from the south-west you may prune directly; if farther north than Derby, wait till the second week in March; if farther north than York, wait till the second week in April. The following are good to plant, under trees, in a good soil and southern exposure; Anna Alexieff, Madame Vidot, La Reine, Baronne Prevost, General Jacqueminot, Lord Raglan, Jules Margottin, Queen of Bourbons, Geant des Batailles, and any of the perpetual Chinas. These are all we can name among the few roses to grow well in the partial shade of trees, and these we have proved to be suitable; one part of our rosery being very much shaded. In the worst parts of a shaded rosery you must be content with maiden's blush, common cabbage, and common china, which grow well and bloom anywhere.

BANK TO BE TURFED.—*A. P. M.*—*Spergula pilifera* and *Spergula saginoides* are admirable for turfing banks, but we could not recommend them to be used under the shade of trees. They are both so hardy that the matter of climate is of no consequence. Probably *Sagina pro-*

cumbens would answer your purpose ; it makes a beautiful turf for slopes, and is not particular as to soil.

PLANTING A NEW GARDEN.—I am building a new parsonage house at this place, which is just about to be covered in. I shall have a garden of upwards of three roods of land. I am anxious, of course, to plant trees of different sorts, the best suited to the soil, which is rich, silty warp. I shall have good walls for peaches, etc. As I am a subscriber to your *FLORAL WORLD*, may I beg the favour of your advice as to what *sorts* of fruit trees will suit this northern climate—the north of Lincolnshire—on the banks of the Trent, and almost on the borders of Yorkshire ; and whether bushes or pyramids will answer best for apples, pears, plums, and cherries, and whether a quince stock, as recommended by Mr. Rivers, in his book, or otherwise. —*W. R. A., Barty, Yorkshire.* [As we presume, your garden is yet unmade, let us first of all say to you, before you think of planting, prepare by thorough drainage for the permanent well-doing of your fruit trees. If you have an outlet sufficiently deep, insert the drain-pipes at a depth of three feet, and a distance of ten or twelve feet from drain to drain ; over the pipes lay six inches of stones the size of an egg, broken tiles, chalk, or any similar material, through which the water will percolate freely. The drainage once well done, is done for a lifetime. If an outfall for the drainage cannot be secured at three feet, a depth of two feet will answer very well. If your situation is much exposed to violent winds, it will be better that you should plant chiefly dwarf pyramids, as the wind has but little power to shake the fruit from such trees ; but if you are not so exposed, you may plant a fair proportion of standards, as these will make a feature in your garden, besides producing, in the course of a few years, large quantities of fruit. But for an immediate supply, as well as permanent utility, plant as much ground as you can spare with well-prepared pyramids from the nursery. Procure apples on paradise stocks, pears on quince, plums on sloes, and if you are careful in your selection of plants, and have them well planted, you may reap a considerable crop from them in the forthcoming summer of 1863. Before we give you a list of fruits that will succeed to satisfaction from the south of Cornwall to “John O’Groat’s house,” let us say to you that the value of your garden will

be enhanced ten-fold by the erection of a small orchard-house, where you would always be sure of a crop of fruit, let the weather be what it might when the plants are blooming. Say a house sixty feet long, and sixteen feet wide in the clear, span-roofed, would give eighty plants at three feet apart, thus—



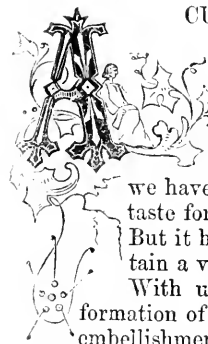
twenty plants on each side, and forty plants in the middle bed, A, in two rows, and you might, if you please, have eighty varieties of pears, plums, apricots, peaches, and nectarines, which would be a perennial source of gratification and profit. There is not the slightest occasion for a heating apparatus, only secure thorough ventilation. Apples—Hawthornden, Dutch Collin, Ribston Pippin, Fearn’s Pippin, King of the Pippins, Blenheim Orange, Margill, Court Pendu Plat, and Red Quarrenden (early). Pears, placed in the order of their ripening, Buerre Diel, Hacon’s Incomparable, Forelle, Chaumontel, Passe Colmar, Easter Buerre, and Buerre Rance Peaches—Noblesse, Violette Hative, Barrington, Chancellor. Nectarines—Ehruge, Violette Hative. Plums—Greengage, Reine Claude de Bavay, Jefferson, Denyer’s Victoria, Reine Claude Violette (purple gage), Dunmore, Coe’s Golden Drop, Coe’s Fine Late Red. Apricots—Moor Park. Cherries—Kentish, Late Duke (let these be pyramids). Morrello for the wall.]

BARREN WALNUT.—*A Subscriber from the First* has a walnut tree thirty years old which has never borne fruit. Can anything be done to induce it to be once fruitful ? [The walnut is long coming into a fruiting condition. While in a young state it grows vigorously for many years, when once it has taken good hold of the soil, and it is not until this exuberant growth is somewhat exhausted, and a moderate growth succeeds, that the tree begins to bear. Bearing may be accelerated by “ringing,” that is, by taking a ring of bark from all around the stem of the tree two inches in width, filling up the hollow so made with cowdung and loam. But it is safest to let the tree take its own course, and grow itself into bearing condition.]

THE
FLORAL WORLD
AND
GARDEN GUIDE.

MARCH, 1863.

CULTURE OF THE HYDRANGEA.



ATTENTION cannot be claimed for a few instructions on the culture of the hydrangea on the ground that it is a general favourite. There are many enthusiastic horticulturists who care very little for it, and we have met with some whom we could not charge with a distaste for gardening who entertained for it a positive dislike. But it has its merits, and the writer is one of those who entertain a very high opinion of its value for decorative purposes. With us, indeed, it has long been a leading subject for the formation of large garden groups, and for terrace and promenade embellishment, its cheerful and characteristic foliage being as acceptable to the eye as its huge and long-enduring heads of rosy bloom. Botanically considered, *Hydrangea* is not a particularly interesting genus. It gives its name to the order *Hydrangeaceae*, which is placed by Lindley between *Saxifragaceae* and *Cunoniaceae* and near *Philadelphaceae* and *Caprifoliaceae*. Thunberg classed it with *Viburnum*, to which it has strong outward resemblances. The species of hydrangea are all inhabitants of the temperate parts of Asia and America, about half of them being natives of China and Japan. It will be easily understood, therefore, that many of the species are hardy, and that none require a stove temperature; this is a great advantage for those amateurs who admire the noble proportions and cheerful colouring of fine specimens. The hydrangea was first observed in the gardens of Canton by Loureiro, who, mistaking it for a primrose, named it *Primula mutabilis*. Commerson, the French traveller, afterwards met with it, and named it *Hortensia*, in compliment to Madame Hortense Lépeaute. It was left to Smith to give its present name, *Hydrangea*, and to preserve Commerson's appellation by converting it into *hortensis* (of gardens), and thus we have *Hydrangea hortensis*, the species in common cultivation, and to which reference is always made when the hydrangea is named in a collective sense.

SPECIES AND VARIETIES.—The noblest of the race is *H. arborescens*, a
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thoroughly hardy shrub, native of Virginia, introduced in 1736. This has white flowers; there is a variety of it called *discolor*, white and green, but of no peculiar value, the normal form is the best. *H. cordata*, with white flowers, is another useful hardy species from America. *H. heteromalla*, from Nepaul, has white flowers, and forms a fine bush; *H. hortensis* is the well-known garden hydrangea, respecting which alone we shall speak in detail presently. *H. nivea* and *nivea glabella* from Carolina, are fine hardy shrubs, with viburnum-like flower-heads. *H. quercifolium*, the oak-leaved hydrangea from Florida, is nearly hardy in this country, and with some shelter in the winter may be planted out and treated as the rest. Among the greenhouse species, *H. Thunbergii* claims pre-eminence as the only one which is turned to any useful purpose. From the leaves of this the Japanese prepare a tea which is in the highest esteem, and is called *Ama-tsja*, or "tea of heaven." *H. Belzonii*, from Japan, is described as producing blue flowers; they are in reality bluish blush. *H. Japonica* is also described as blue, and here we find the small central flowers to be of a pale pink, tinged with blue, and the expanded flowers on the outside of the cymes pure white, with a pinkish centre. *H. Japonica cerulea* approaches more nearly to a blue colour. *H. stellata*, pink, is interesting, and as easily managed as the rest. These are all that are worth naming, though we might add a few trivial varieties, which, during the last twenty years have had names and characters given them, but have never attained to a creditable position. There are, in fact, but two species commonly cultivated, *H. hortensis*, the well-known nearly hardy plant, the most truly ornamental of all, and *H. Japonica*, which is both beautiful and curious, and well worth a place in every greenhouse.

CULTURE.—We will first explain our own mode of procedure, which is very simple and successful; by it we have handsome plants, with huge heads of bloom from the beginning quite to the close of the summer season, and these we group as pot plants about the walks, near garden-seats, and to decorate approaches. In May a number of cuttings are taken from the lower parts of the stems of strong plants. We prefer young shoots with four or five joints, not more than five, and perhaps preferable with only three. The strongest wood may be used, and will be sure to root, but small young cuttings make the best plants. The cuttings have the two lowest leaves removed, and are potted singly in thumb pots in a mixture of leaf-mould and peat, with a very little sand. These are all placed on a moist bottom-heat of not more than 60°, either over a propagating tank, in a frame over a dung-bed, or in a propagating case. They require to be kept moderately moist, and will bear to be closely confined until they form roots. Never having seen a case of damping-off, though we have struck thousands of cuttings, and in various ways, it does not seem needful to warn the cultivator on this head. However, let air be given moderately after the lapse of a week, and thenceforward increase the supply, so that by the time the pots are filled with roots, the plants will be hard and thrifty. When propagated on a large scale they may be dibbled into wet sand, placed over a tank or dung-bed, but we prefer to pot them singly at first, as it is a decided gain in the end. When the thumb-pots are full of roots shift to 60-sized pots, using a compost of peat, leaf, and loam from rotted turves, equal parts of each, keep them in the greenhouse, or warm pit, water frequently overhead, and at the root; give plenty of air, and keep the plants near the glass. When these pots

are full of roots, shift to two sizes larger, that is into pots of six inches diameter, the compost for this shift to be strong turfy loam, full of fibre; turfy peat, all the dust and fine black powdery part removed, rotten dung and leaf-mould, equal parts, no sand. For the drainage of these pots we use only one large oyster-shell, placed over the hole in the pot, hollow side downwards. The plants are shifted into these pots without breaking the balls of earth formed in the 60's, and are at once placed on a bed of coal ashes, or a hard pavement in a shady place out of doors, or plunged to the rim in a bed of cocoa-nut refuse. They have abundance of water, and before the end of October they have attained to an immense size, and have ripened plenty of hard flowering wood for the next season. We neither stop nor tie, but allow the branches to fall over as they please, which gives the plants a graceful contour, far preferable to that produced by any kind of training.

The plants are housed at the end of October. A cold pit suffices for their protection, and they have a little water occasionally, and are kept clean as they lose their leaves. In case of severe weather a little care must be taken to prevent them being severely frosted.

From this point the cultivator may proceed either to force a few at a time, or allow them to bloom naturally as the season advances. The first thing to do is to cut them back to about six eyes from the bottom to each well-placed ripe shoot, removing any weak inside shoots that might crowd the head without improving the plant. Next give them a shift to pots seven and a half inches in diameter, with the same soil as the last, and with a mulch of rotten dung an inch thick on the top. Ordinary greenhouse temperature will set them going very early in spring, and the blooms will show immediately. Provide some neat green stakes, slender but strong, eighteen inches in length, and tie every shoot as soon as the bloom is visible loosely to a stake, as when the flowers are fully expanded, their weight when wet with a shower will sometimes cause them to fall over and break the stems. All they need after this is *abundance of water*. They can scarcely have too much at the root, or be too often sprinkled overhead. When the roots begin to run upon the surface, assist them with liquid manure, rather strong, once a-week, and by this time the blossoms will be expanding and colouring, and after acquiring their proper character, will continue in perfection a longer period than those of any other plant in our gardens.

These plants are not to be shifted again till the next spring; then they are to be cut back to about eight buds from the base, and shifted into 10-inch pots, and they will make enormous specimens. The next year they may be shifted to 15-inch pots, and after that it is not advisable to increase their bulk any further. A few cuttings to furnish small useful plants should be put in every year in April or May; or if there is no convenience to strike by bottom-heat, they may be rooted under bell-glasses without heat in June, but it is best to strike them not later than the first week in May to insure the formation of ripe wood for blooming the next year. For ordinary purposes the most useful are yearling plants, which, when they have bloomed once, are to be destroyed. To force them is a mere matter of temperature, and they take a moist heat from Christmas onwards as kindly as any greenhouse plants in the catalogue.

HYDRANGEAS OUT OF DOORS.—As the hydrangea is so nearly hardy, there is little difficulty in growing it in the open air in the southern

counties. Planted in a good border, and slightly protected in winter, it becomes a magnificent object; the border should be deep, and consist of chiefly rotted turf and dung. During winter the best protection is a mat well stuffed with straw. To insure a fine bloom and a free growth, the plant should be watered from the end of April to the end of August abundantly; it in fact can scarcely matter how much water is given. A writer in the "English Cyclopædia" says he has known it receive as much as 100 gallons daily with visible benefit.

CULTURE OF THE CAMELLIA.

IN the paper on Camellia Culture, which we published in the January number, we gave directions for the management of the plants in their various stages of growth to an extent commensurate with the wants of the majority of amateur cultivators. We have now a few remarks to offer on the modes of propagation usually resorted to in nursery and private practice.

CAMELLIAS FROM CUTTINGS.—This mode of propagating is not recommended, for camellias grafted or inarched on seedling stocks are preferable to plants on their own roots. The best time to take cuttings is when the young shoots of the season are just getting ripe. Then cut off the young shoots at the fourth joint from the top, that is, to have cuttings four joints long. With a sharp knife trim away the wood of the internode by a horizontal cut close below the lowest joint, and from that and the next joint above remove the leaves. Fill some large shallow pans with silver-sand, and dibble in the cuttings pretty close together all over, and place over them a bell-glass. They should be kept just damp enough to preserve them in a fresh state; if at any time very wet, the cuttings will perish, and so long as moisture condenses on the glass, the sand may be allowed to get nearly dry before it will be needful to give water again. Let them have air every day for a few minutes, during which time the glass can be dried. If there is any probability of the sun shining on them, cover the bell-glass with paper, or smear it all over outside with a thin wash of clay and water. For at least four weeks they should be kept thus in a cool place, and with very little moisture. They will by that time have formed the necessary "callus," and may be removed to a mild hot-bed, where they will have a bottom-heat of about 65°, or from 60° to 70° and *not more*. They will require more moisture now, and frequent dewing of the leaves, but care must be taken not to rot them by excess of moisture. When rooted, put them off in pure peat, with a fifth part of silver-sand added, and shut up warm till they have made a good start, then lower the temperature and give air, and as soon as hardened treat as old plants.

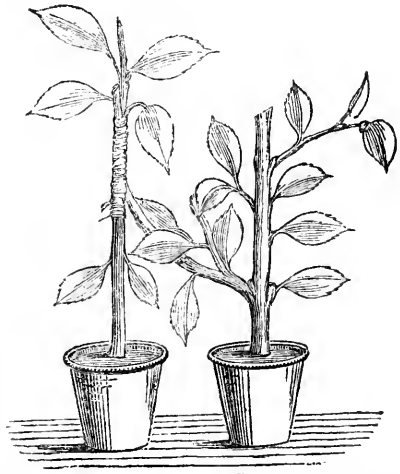
SEEDLINGS.—Camellia seeds are now sold at a low price, and all the leading seedsmen supply seed of named varieties as well as seeds of common single camellias for stocks. It is very seldom, however, that good seedlings are raised in this country; most of those sent out as English seedlings are in reality raised on the Continent, and sent here to be named and sold. However, the dealers offer seeds guaranteed to produce a fair proportion of double flowers, and the amateur who chooses to make a venture in raising seedlings may turn his labour to account even if, when the plants flower, none of them are worth perpetuating. The seedlings

will make good stocks to graft or inarch others upon, and when seeds are purchased expressly to raise stocks for working, preference should be given to seeds of the single red, which makes the best stock, and of which the seed is cheapest in the first instance. The seeds should be purchased early in the summer, so as to have it as newly ripened as possible, and it should be sown as soon as received. Fill the seed-pans half full of broken crocks, and fill up with a mixture of peat and leaf-mould equal parts, and one half part of silver-sand. Cover the seeds an inch deep, and pack away the seed-pans in a pit, in a bed of cocoa-nut refuse, which will maintain an equable temperature, and prevent extreme dryness of the seeds, if they happen at any time to be forgotten. All they require is to be kept moderately moist and never wet, and to have no artificial heat whatever. They require two years to germinate, and rarely blossom in less than four years, generally in five; and the best way to get an early bloom is to let them grow as they please, and never to stop or cut them. Some good varieties may be expected even when seeds of single camellias only are sown, and as when five years old they are still good stocks, there can be no harm in allowing all the seedlings to bloom before working any. As it is not difficult to ripen a few pods of seed in this country when the plants are only slightly forced, the cultivator should aim at a distinct effect by hybridizing; and there is no subject easier to operate upon than the camellia. Choose the varieties to be crossed, so as to have the best possible *form* in the flower which is to give the seed, and the best possible colour in that which is to furnish the pollen. As soon as the mother flower opens, cut away with a pair of scissors the stamens before the anthers burst; and when the stigma begins to show a glistening appearance, dust the pollen of the pollen-flower upon it. The safest plan is to dust as soon as pollen can be got, whether the stigma appears to be perfect or not, and to dust again several times. Among the many dustings one may take effect, and a pod of really valuable seed may be secured.

INARCHING.—This is the simplest method of propagation, and requires the least amount of practice to insure success. This may be performed during summer or autumn, after the wood is ripe, or early in spring before the plants begin to grow. We prefer the spring, because there is then a long season of natural heat to perfect the union, and the scions may be sooner cut from the parent plants.

Place side by side the two plants that are to be operated on, namely, the stock and the double variety from which the scion is to be taken. The stock is not to be headed until after the graft has grown, and both stock and scion should be in a state of vigorous health.

Select on the named variety a branch that may be easily drawn aside and bound to the stock, and



mark where they can be made to meet easily without straining either. Pare away with a sharp knife about two inches length of bark on both stock and graft where they meet, and sufficiently deep into the wood of each, so as to bring the edges of the bark of each into close contact,



but beware of cutting too deeply into the wood. Make a small tongue upwards in the scion, and downwards in the stock, as in side grafting; fit the parts together, and tie with bass. There need be no claying or waxing, for if the operation is performed in a house suitably warm and moist, junction will soon take place. The appearance of the plants operated upon will be as in the subjoined cut; of course one bushy plant of a chosen variety may be surrounded with stocks, and supply scions for them all by a little management. In about nine weeks from the time of the operation the scions may be separated from the parent plants, and

the bass removed. In cases where the plants cannot be brought into contact, the scions must be cut off the plant to be propagated of considerable length. The inarching is to be performed in precisely the same manner as first described, and the end of the scion must be inserted in a phial of water suspended to some part of the stock, as in the subjoined diagram. As propagation by budding is usually and best performed in July, we will defer our observations on that subject for the present, but it is right to remark that grafting should be performed in spring, and the side graft is the best. When the grafts are put on and clayed, the plants should be laid on their sides on a bed of moist fermenting material, and kept shaded till the grafts begin to grow, then they may be placed on their feet, and the ties should be loosened.

A SELECTION OF CAMELLIAS, OLD AND NEW.

SIX CHEAP AND INDISPENSABLE VARIETIES.—*Double Whites*—Chandlerii, red and white; Corallina, dark red; Hendersonii, pink; Ochroleuca, cream; Donckelaari, rose mottled.

TWELVE CHEAP VARIETIES TO ADD TO THE ABOVE.—Aitoni, red, single, showy; Althæflora, red, large, like a double hollyhock; Candidissima, white; Chandleri elegans, flesh; Conspicua, red, very showy; Double Striped (or variegata), crimson, mottled white; Imbricata, carmine, waxy, occasionally mottled; Pæoniflora, large, pink, pæony-shaped; Splendens, scarlet, fine habit and free bloomer; Tricolor, rosy flesh, with scarlet markings; Targioni, white, striped with carmine; Violaacea superba, purplish red; Woodsii, light rose, lasts a long time.

TWENTY-EIGHT FINE OLD AND CHEAP KINDS.—*White*—Alba plena; Candidissima; Candor; Fimbriata.

Yellowish White.—Montironi; Ochroleuca.

Striped and Blotched.—Adelina Benvenuti, white, blotched with rose; Albertus, carnation, striped; Alexina, blush, delicately marked rose;

Countess of Ellesmere, creamy white, delicately striped; Countess of Orkney, white, striped carmine; De la Reine, snow white, mottled and white rose; Jubilee, blush white, rosy pink stripes; Teutonia, rosy pink, shaded and striped white; sometimes pure white.

Rose and Scarlet.—Amalia Melzi, shaded rose, centre petals edged with white; Archiducea Giovanni, scarlet, rose centre, striped white; Commander-in-Chief, deep rose; Drysdali, red, with carnation stripe; Hendersoni, shaded rose, imbricated; Marchioness of Exeter, clear rose; Mariette Massanii, deep rose, light centre; Saccio (also known as Halfida, Saccio nova, Alphedi, Rosea nova, and Augustina superba), pale rose, exquisite shape; Storyi, rosy pink.

Carmine and Crimson.—Bennyi di Boul, crimson striped and tipped; Chandleri, crimson red, mottled white; Colletti, deep red, white blotches; Corallina, crimson red; Maria Morren, carmine, veined and shaded; Mathotiana, crimson, extra large and handsome; Optima, rosy crimson, shaded white; truly magnificent.

Any of the above may be had at from 2s. 6d. to 3s. 6d. each, and, as they are all of first-rate quality, a mistake cannot be made if only one, and any one, be selected from each class. Those which follow range from 5s. to 15s. each.

THE BEST OF THE LAST FEW YEARS.—Souvenir d'Emilie Defresnes, vivid carmine, with stripes of blush; Pearl, imbricated, snowy white; Punicea (1861, Milne), large, rich crimson, bright, substantial; Amœna (1861, Milne), double carnation striped; Augusta Delfosse, velvety carmine, hexagonal; Bella di Pontedera, brilliant rose, striped white; Cup of Beauty (1860), pure white, delicately streaked with pink; Princess Frederick William (1860), carnation striped; Queen of Beauties (1862), imbricated, petals shell-like, delicate blush; Etoile Polaire (1862, Henderson), carmine scarlet, white stripes; Countess of Derby (1862), white, striped with deep rose, extra fine substance; Leopold I. (1862), rose, veined with crimson.

ROSE GOSSIP—No. II.

SYMMETRY of form is undoubtedly the first element of perfection in a rose, for, without it, a variety must be considered only second-rate, whatever other good qualities it may possess. Yet how few, even amongst established favourites, will bear critical examination on this point, in which novelties in particular are apt to fail; so that to secure real advances in this primary qualification it is desirable that no flower should obtain recognition at the exhibitions, or a position in the lists, unless perfectly double and symmetrical.

One of the chief features that determines the formation of a rose is its centre. This ought to be high and full, whatever the style of flower

in other respects; yet I do not know one any characteristic of perfect beauty more ignored in nine out of ten varieties that come out year after year. Looseness and flimsiness appear to be the rule, and not the exception. It is to be hoped that, as our English growers appear to have taken up the enterprise of raising seedlings in earnest, that they will not be betrayed into following the example of their continental brethren, by circulating new kinds of inferior merit.

Descriptions of "form," also, appear to be as lax and unsatisfactory as those of "colour," upon which I have previously animadverted. "Cupped," for example, is a term

applied indiscriminately to varieties as round as a ball, or as flat as a saucer. This may sometimes arise from the *stage* of growth selected for allotting their configuration, whereas the true formation of any given flower should be determined only when it is fully open, and its character consequently completely developed. When we find such kinds as Madame Knorr, Vainquer de Solferino, Boule d'Or, Chabriland, Jules Margottin, and others, all described as "cupped," it is manifest how inappropriately and indefinitely terms are too frequently applied. Among the growers' catalogues, however, must be excepted those of Messrs. Wood, Fraser, and Cranston, in which will be found most praiseworthy attempts at detailed descriptions and of individual flowers.

The leading contours of roses may be comprised under the following heads: Globular, reflexed, expanded, cupped, and half cupped or tazzashaped; which forms will result from the centre, the face, the profile, and the size, shape, and depth of petal.

1st, The globular. The old roses

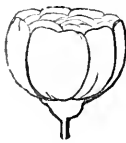


Fig. 1.

Duchess of Sutherland or La Reine may stand for its type, which is almost invariably double, and well formed, the centres being full of small leaflets, the exterior petals sometimes folded over at the points with great elegance and regularity, as in Chabriland and Senateur Vaisse. A variety of this form sometimes arises from the whole of the petals being incurved, as in the new roses Madame Pierson and Robert Fortune. The petals are large, and profile deep.

2nd, The reflexed. Type, Jules



Fig. 2.

Margottin. The centre in this variety is very high, from which the petals turn over, increasing in size to the outer row; they are sometimes imbricated, as in Madame Vidot; profile deep.

3rd, The expanded. Baronne Prevost may be considered as the representative of this section, under which

a great number of sorts might be arranged, and which is in reality merely a modification of the above, being larger in diameter, flatter at the centre, and with a much shallower profile.



Fig. 3.

4th, The cupped. Maria Portemer, though smallish, or Vainquer de Solferino, both full flowers, will perhaps serve as a type of this style of flower. Here the centre is not always full. The face is flat, and the outer petals large, holding up, as it were, the interior; profile deep.



Fig. 4.

5th, The half cupped. Lord Raglan or Souvenir de la Malmaison will serve as a type for this class, which is more expanded than the last named, usually fuller in centre and larger in diameter, though it is in these two classes that deficiencies in doubleness most frequently occur. This remark, however, does not apply to the Bourbons, which for the most part have excellent centres. The face is flattish, and the profile somewhat shallow. Under this head such flowers as Eveque de Nismes must be reckoned.



Fig. 5.

I am disposed to believe that most of our existing favourites might be classified under one or other of the foregoing divisions; perhaps consideration might suggest one or two others. I am not aware of any *very* dark varieties that belong to the first, and but few to the second. With depth of colour, size and doubleness seem to decrease; and it would appear we must wait and long for the colour of Prince Noir, combined with the size and symmetry of Chabriland. It is worthy of remark, likewise, that few of the dark varieties succeed well in the neighbourhood of London. They appear to have a decided antipathy to smoke, and to require a favourable rose climate to develop in

perfection their undeniable attractions. Perhaps some of these remarks may be deemed heretical by many rosarians; still I think it will scarcely be denied that more accurate descriptions both as to "form" and "colour" are desirable, if they can be attained, although at the expense of violence to current opinions, and by a little trouble. We should aim at perfec-

tion, even in our amusements, and accurate definitions tend to promote correct judgment, and improve the taste—elements of progress in every pursuit, and important aids to excellence in the light and fascinating recreation of floriculture, as well as in more serious subjects of study.

W. D. PRIOR.

Homerton, Feb., 1863.

FRUIT CULTURE.—FORMATION OF BUSHES AND PYRAMIDS.

THERE is perhaps no department of fruit culture more perplexing to amateurs than the formation of bushes or pyramids from maiden trees, as these are sent out from the nurseries. Of late years there has been so much said about them, that the cultivation of miniature fruit trees has become a distinct hobby; and as the FLORAL WORLD has had its share in rendering bush fruits popular, it is but fair we should do our part towards aiding the amateur in the routine of training and pruning needful for dwarfing the trees, and rendering them prematurely fruitful. This is not the time or place to discuss the comparative merits of the dwarfing system. It suffices for the present that there are two great objects accomplished in checking the natural tendency of the trees to become trees: first, early fruitfulness, so that instead of planting for posterity, we plant for ourselves, and taste the fruit of our labours at once; and, secondly, that the bush form is so favourable to economizing space, that a considerable variety of fruits may be grown on an area which would accommodate but one or two of the old-fashioned standard trees.

The system of pruning followed in the formation of bush and pyramid fruits very nearly dispenses with the use of the knife altogether. But so much has been said in favour of finger-and-thumb pruning that it might fairly be supposed that the knife had become obsolete among fruit growers. Such a supposition would be erroneous. It may be fairly

conjectured that there is not a bush or tree in the British islands worthy of severe criticism which has been formed by finger-and-thumb pruning only; nevertheless, as the knife is chiefly used to remedy the defects of pinching, we are bound to assign to the pinching system the importance which is its due. The cultivator needs to consider from the first what is to be the permanent form of the tree which he has taken under his care. In determining upon this form he will have to be guided somewhat by the nature of the variety. Thus, among pears some varieties form pyramids with scarcely any training or pruning, others form diffuse bushes on quince stocks, or robust and strong growing trees on pear stocks. So with apples, plums, and in fact fruits of every class, varieties differ; and it would be a folly to compel them all to submit to precisely the same modes of treatment. For bush fruits that are to be grown in the smallest possible compass the style of training known as *en quenouille*, or distaff, is undoubtedly the best. In this case the object is to obtain a clean stem, densely clothed from tip to toe with fruit spurs, and by thus bringing the tree into a habit of early fruitfulness to prevent robust growth, and render the pruning a quite nominal affair. Suppose we begin with a maiden apple tree just received from the nursery. It will have an appearance similar to the tree represented in Fig. 1. If this is left unpruned, each of the three side-shoots and the leader will grow from their terminal buds, and there will probably be few or none

of the dormant buds on the stem started. But as the stem is to



Fig. 1.

be clothed, we must cut back the leader and the side-branches, as marked in the diagram; the knife in each case to be passed through close over a plump bud. That terminal bud will start first and with most vigour when the growth commences in spring, and if allowed to have its own way, may in each case cause a lengthening of the shoot, and a consequent continuance of the nakedness of the remaining portion of the stem. But by leaving the top bud of the leader to grow as it pleases, and pinching in the growth of the side-shoots as soon as three leaders are fully developed on each, we compel the tree to push out shoots from dormant buds on the stem, through the necessity laid upon it to find an outlet for the sap. By pinching in these shoots above the third or fourth leaf, and pinching in the secondary shoots in the same way, as soon as they have perfected three or four leaves each, the tree is induced to



Fig. 2.

The top bud of the leader will again grow vigorously, and new side-shoots will be thrown out above those previously pinched

in. All *wood-buds* are to be pinched as before, at the third or fourth joint from the bud, but never till three or four leaves are fully developed; then nip out the point, leaving the three or four joints only. Three or four pinchings at intervals from the end of May till the end of July will suffice to keep the growth as regular as if mathematically arranged beforehand; and if care be taken never to pinch too late, but rather to leave neglected shoots to ripen at their full length after the end of July, the tree will have some such appearance as in Fig. 3; and as it will now be a regular distaff, we quit it, trusting it will bear as it ought, an abundance of fruit.



Fig. 3

form fruit-spurs at the base of some of the pinched-in shoots, and if these can be well ripened before winter, there will be a fair chance of fruit the succeeding summer.

If the pinching has really not been neglected, the tree at the end of the season will present some such appearance as in Fig. 2, and the only pruning it will require will be to cut back the leader about one-fourth of the whole height of the tree.

Between the rigid distaff as thus described and the graceful pyramid, there are many intermediate forms, such as the diffused and irregular bush, etc.; but these are chiefly determinable by the peculiar habits of varieties that by their growth refuse to conform to the formal outlines prescribed for them by the cultivator. But there will be no difficulty in their management if the cultivator bears in mind never to pinch too soon or too hard. There must always be an outlet for the sap of a tree growing vigorously, and the several pinchings should be distributed over as long a period as will be safe both for the stopping of the shoots in time and the ripening of the subsequent growths.

In forming pyramids great care must be taken to insure a free growth at the bottom of the tree. The use of the knife will alone do this. If the tree is allowed to run up to its full height at once, the lower part of the stem will be poorly

furnished. In forming pyramids it is all important to bear in mind that the tendency of the leading shoot is to lengthen itself at the expense of all the rest, and therefore a bold practice must be followed in cutting the leader back. The amateur will perhaps be afraid to cut boldly for fear of spoiling the outline of the tree; but if a maiden tree is to be grown as a pyramid, the leader must be cut back at least one-third the first year of planting, and the top bud left to grow must be on the side opposite to that on which the graft is inserted, in order to promote a straight growth of the main stem. At the same time, the side-shoots nearest the base should be cut back about a fourth of their length, and all subsequent growths of secondary shoots, on these side-branches, should be pinched in. Du Breuil advocates the suppression of secondary shoots so that each side-branch should be restricted to fruit-spurs only; but in this country secondary shoots or the main laterals are to be encouraged, provided there is no crowding; this plan obviates the necessity of severe pinching, which if carried too far is apt to be attended with the inconvenience of imperfectly-ripened wood, our autumns being very often too damp and cold for a prolonged period of pinching.

After being thus pruned, the top bud starts away, and the lower branches produce fruit-spurs. At the next pruning, the side-shoots formed above those now beginning to fruit will require a shortening similar to that practised on the side-shoots the previous year. At this point the cultivator should consider that to lengthen side-shoots or main stem is the easiest matter in the world. A tree pruned back will always endeavour to extend itself and attain to full dimensions, so that whenever *length* is desirable, a terminal bud left to grow as it will, is sure to produce the desired result. Thus by insuring the lower furniture, and carrying up the leader slowly, successive tiers of branches are formed, and every one of the side-buds of the leader is compelled to break, and furnish its quota towards the com-

pletion of the tree. In every case the pruning back of the leader is to a bud on the opposite side to the one left at the previous pruning, and the side-branches are prevented breaking into a crowd of spray by pinching in all wood-buds that show except where, in the enlarging circumference of the tree, bifurcations are necessary to fill up the outline. The ultimate form of a tree so managed will be as in Fig. 4, and when it has become pretty equally furnished with fruitful wood, it will be very seldom necessary to use the knife at all.

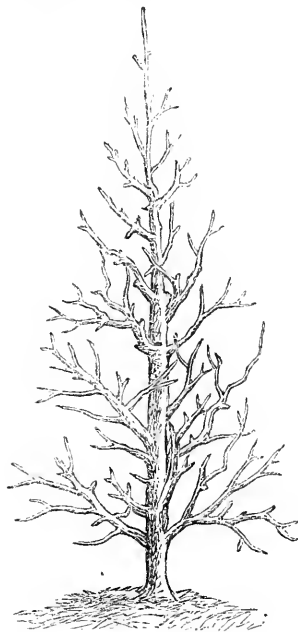


Fig. 4.—Pyramid Pear.

It is understood that these trees are to be lifted annually or biennially, according to the nature of the soil and the vigour of the trees. In rich deep moist soils annual lifting may be desirable; but in poor, thin soils it may suffice to transplant them every alternate year. But the trees will themselves pronounce what should be done with them. Any that make insufficient growth should remain untouched a second year; those that grow rampantly should be taken up at the end of November and immediately replanted.

PROFITABLE GARDENING.

CHAPTER XXVI.—CULTURE OF CUCUMBERS, MELONS, AND GOURDS.

THE culture of any one class of cucurbits may be made a key to the culture of all the rest. A man who has acquired skill in the management of the cucumber, if he has never attempted to grow melons, will soon hit upon the plan of producing them in perfection, and may only need to be told to give them more heat, more sun, less moisture, and plenty of stiff soil, with very little manure. So the cottager who has become expert in growing gourds and marrows, will find it an easy matter to turn his hand to cucumbers, and will only need to be advised to keep up a steady heat in a dung frame, and to practise a system of stopping, and supply plenty of atmospheric moisture. Necessarily in dealing with three sections of one family, which differ chiefly as to their relative hardiness, many considerations will apply to all alike, and it will be necessary for the reader to keep this in mind, that the writer may thereby avoid repetitions, and, as far as possible, make the several points of culture illustrative of each other.

The first consideration on entering upon the culture of cucumbers or melons is the choice of a structure for the purpose. In times gone by, there was nothing better than the hot frame or pit, heated with leaves and stable manure, and in skilful hands there was generally no difficulty in obtaining plenty of fruit. But in a dull, cold summer, the dung-frame was very uncertain in productiveness, and as horticulture progressed, pits and houses heated with hot water were specially provided for them, and to a great extent the cultivator has, by the help of these, been enabled almost to defy the damp and drizzle and chill of an unfavourable season. This question of the choice of a structure is of the greatest importance. All things considered, nothing can surpass a well-built pit with open beds heated by hot water, and the lights furnished with trellis wires, on

which to train the vines. When pits are built for the purpose, it is worth considering that a houseful of melons or cucumbers, showing a rich screen of foliage between the eye and the sun, and the fruits hanging below it, as they would naturally if the plants were twining among the trees of their native soils, is one of the finest sights in the whole range of horticultural exhibitions, and those who can afford to build well should certainly give the preference to a form of house in which this sight can be enjoyed in its season. We give the preference to hot water in pipes or a tank, because of the certainty with which the temperature may be regulated, the cleanliness with which all the cultural operations may be performed, and the facilities afforded for displaying the beauty of the plants. There are at least two points in favour of the dung-bed: in the first place, it suits the pocket of the poor cultivator, for though it entails much labour, the money outlay for a good pit or a few frames need not be large, and the cost of manure is all returned in the material itself when it is cleared out in a rotten state for other purposes; secondly, the atmosphere of a well-managed dung-frame is admirably suited to the growing plants, the moisture and the ammoniacal vapour are both eminently favourable to luxurious vegetation.

THE CUCUMBER (*Cucumis sativus*)
SEED-BED.—It is best to raise the seedling plants in a small dung-frame, because of the superior strength of the seedlings, owing to the favourable nature of the atmosphere. But the pots containing the seeds may be placed on fermenting tan, or on a bed over a tank, anywhere, indeed, where they can have a steady moist heat of about 75°. In any case the pots should be plunged in some sweet material, such as tan, leaf-mould, or cocoa-nut dust. The seed should be new and plump, the soil to sow them in a mixture of the turfiest part of

loam from rotten turves and leaf-mould, half and half, no dung. Sow in pots or shallow pans, the latter are the best, because as soon as the roots touch the bottoms of the pans, they break into masses of fibres, which is the best condition for them for planting out. At the time of sowing, the heat should be sweet, and the sides of the frame and the glass all as clean as if the culture were to be carried on in a drawing-room. If old frames are used, make up the bed, put on the frame, and the day before you intend to sow, pour boiling-water down next the wood all round to kill the woodlice. If pans are used, they should be not more than three or four inches deep. If pots, use those of 60 size, with one crock over the hole, and two seeds in each pot, placed one inch deep in the soil. When the plants are up, keep them only three or four inches from the glass, and as soon as they have rough leaves remove the weakest plant from each; this will leave them single in the pots to form balls of roots, which can be shifted without breaking, a much better way than growing them in pairs. If sown in pans, shift to 60-sized pots in mould previously heated by making the pots ready some time beforehand, and placing them in the frame to get warm. Mr. Cuthill follows the established plan of potting in pairs; we prefer single potting, and never turn out any cucumber, melon, or gourd till it has filled a 48-sized pot with roots. On this plan there will soon be needed another shift, and by the time the 48-sized pots are full of roots, the seed-bed will be getting cool, and perhaps may need a lining to carry the plants so far. In winter time it is advisable to strew silver-sand over the soil in the pots, after each shift, to prevent damping. Air must be given as much as possible, but the state of the weather must regulate this part of the culture, and no rule can be laid down. The bottom-heat should be never less than 65°, and water should be kept in the frame so as to be warm for watering. If this is not convenient, get a can of boiling water from the house at watering time, and add a little of this to every

full watering-pot to bring the heat of the water to about 70°. Early sowings will want a good deal of care to guard against frost, wind, and snow, therefore mats and hurdles should always be in readiness when early sowings are made. To regulate the time for making up the fruiting-bed, five weeks on an average may be allowed from the time of sowing the seed to turning out the plants for fruiting. The period will be shorter as the season advances, and if they are to be turned out in pairs from 60-sized pots, four weeks should be the utmost, so about three weeks after sowing the seed, get together the dung for the bed, and commence turning it, to establish a regular fermentation. One more caution seems needful here: guard against too high a night temperature, the registering thermometer may go down to 60° towards morning, and may rise to 70° or 75° at mid-day.

FRUITING-BED.—If turned out in January or February, very strong beds will be needful, and precautions must be taken against burning. The best method to accomplish this is to carry up a pile of brickbats in the centre of each light, as the bed is made up. If this has been forgotten, and the heat is very strong open the centre, and lay down a thick turf, grass side downwards, and over this put a thick paste of wet cowdung, then make the ridges for the plants. The soil for the fruiting-bed should be, if possible, the top spit of a pasture, fed by sheep or cattle. This well chopped over can be used at once without any manure, or any preparation. Some readers may be inclined to ask if it is not likely some mischief will result from wire-worm by using fresh-cut turves; we can only say that whenever we could get turf of the kind described, we have always used it as it came, and with the grass still green, and never lost a plant in consequence. At Stoke Newington we can get thin slicings from rich pastures carried in at 7s. 6d. per one horse load, and when removed from the cucumber or melon-bed, it is in fine condition for potting composts

But it will certainly be a safer and more orderly way to cart in the soil in autumn, and stack it up in narrow banks for the grass to rot, and the winter frost to penetrate the mass. Cucumbers will grow well in leaf-mould, common garden soil, and thoroughly rotten dung, equal parts, or in leaf-mould alone, but unless there is a bulk of firm loam in the mixture, they sooner go out of bearing. But the best mixture is equal parts maiden loam, leaf-mould, road-sand, dry horse droppings that have never been fermented, and of soil from beds which have already been used for cucumbers. This should be prepared and laid up in conical heaps at least a month before it will be wanted. Whether the heat be from hot water or dung, the ridges should be made up a day at least before planting to have the soil quite warm. Hillocks for the plants are now out of fashion, ridges supersede them because the plants grow better on them, and occasion less trouble. Make the ridge across the frame six inches away from the centre, towards the back of the frame, and let it be a foot wide and a foot deep, and eighteen inches from the glass.

CULTURE FOR FRUITING.—At this point we must take cognizance of a great distinction to be observed in the management of plants intended to be grown on trellises, and those which are to sprawl about the bed. Those to be trellised must not be stopped, but have a stick to support them till they get above the trellis; those to ramble over the bed must be stopped from the first. Plant up to the seed-leaf, water to settle the earth about the roots, and shut up at a temperature of 70° bottom-heat, 60° top-heat. In the after management attention must be specially paid to a few points that may be very briefly stated. The plants should never suffer by drought at the root, and the atmosphere of the house or pit should be always in a moist state. In the dung-bed frequent sprinkling with tepid water will suffice; in the pit water troughs must be placed over the pipes or flues, to cause a constant diffusion of vapour. For a

few days after planting it is best to shade; but as soon as the plants have made a start, discontinue shading, except when there have been several days of dull weather, and these are followed by a burst of powerful sunshine; then during mid-day an hour or two of shade will be useful, but is to be discontinued when fine weather has fairly set in. Let the temperature rise as the plants advance in the tank heated pits. This will be easily accomplished; in the dung-frame it must be done by means of linings, and when the plants are in full vigour, and have abundance of water, the temperature may go up to 90° or 100°. When the plants have attained their full growth, and are bearing freely, give them manure water twice a week, as strong as can be used, without discolouring the leaves. In the meantime continue to extend the ridge as the roots require it; but having once supplied a sufficient amount of material for the roots to work in, if the roots rise to the surface, do not cover them—Nature is not to be hastily thwarted from such whims and oddities. As for rambling plants in dung-beds, they ought never to be allowed to root at the joints; more than one set of roots is more harm than good to any plant. As to the pinching, that must be alike in all cases, whether the plants are grown in frames or in houses, though it is too much the practice to let them run away for a time on a trellis, and so get prematurely exhausted. The simplest and safest rule is to stop before the fruit, that is to leave but one joint with its accompanying leaf in advance of the fruit, and when the fruit shows in pairs, it is best to rub away one of every pair. If large fruits are required for exhibition, there must be but one or two left to swell at a time, and free growth must be encouraged by heat and moisture. There is no need to impregnate the blossoms after the end of March, but during winter and early spring the female blossoms must be set by means of pollen from the males, and this should be done at mid-day. The trellis should be one foot from the glass, and strong enough to allow the

fruits to hang down naturally. New hazel rods make the best trellis for frames and pits, but in a forcing house there should be a permanent trellis of iron rods and wires. In case of green-fly or thrips fumigate with tobacco. In case of "gum," which is a sort of oozing of thickened juice from the joints of the stem and from the fruit, shade from mid-day sun, and starve the plants. The disease is incurred by the absorption into the vessels of more matters than can be organized; it is in fact the result of repletion.

OUT-DOOR CUCUMBERS & GOURDS.

—The culture of the cucumber in the open air is a very simple matter, and in good seasons pays well. There are various methods pursued. In some cases warm borders are chosen, and having been dug over and manured, saucer-like hollows are formed eighteen inches in diameter, two inches deep, and five feet apart. About the middle of May half-a-dozen seeds are sown in each of these hollows, and the plants are protected at night with inverted flower-pots, until the season has sufficiently advanced to allow them to be fully exposed to sunshine and night dews. In other cases the plants are raised under hand-glasses, from seed sown at the end of April; when strong enough they are transplanted in patches of three or four plants each, and left to grow as they will, without stopping. The market growers sow in the last week in March; the plants are grown on strong in small pots, and at the end of April are ridged out under hand-glasses, and the handlights are kept in use until the end of June. The ridges on which the plants are placed out are formed on trenches two and a-half feet wide, two feet deep, and with six feet intervals between. The trenches are filled with fermenting dung that has been turned as for any other hot-bed, in quantity sufficient to make a ridge six inches higher than the alleys between. Over the dung is spread six inches of good soil. In about three days the heat will have risen, and the plants are put out. We have for many years grown ridge cucumbers, gourds, and marrows by a plan which

we consider superior to the foregoing. The seeds are sown at the end of March, and the plants have good culture in an unheated sunny lean-to house until the beginning of May. By that time they have been twice stopped, and are strong bushy plants, potted singly in forty-eight sized pots. The beds are marked out four feet wide with three feet alleys between. The earth is taken out from the beds, and ridged up in the alley; and at the same time plenty of good manure is mixed with it. Two feet depth of half rotten dung is then laid down, and for this purpose we use the material from hot-beds which have been in work since February, and are now getting cool. The earth from the ridges is then thrown on the dung, the plants are put out at once, strong growing marrows five feet apart, cucumbers and custard gourds three or four feet apart. They are well watered, and covered with large pots or handlights for a week, and then left to take care of themselves. They enjoy a good bottom-heat, and grow vigorously. We never stop after they are turned out.

GOURDS, SQUASHES, & MARROWS.

—Some of the small-growing varieties of marrows will grow in any good garden soil, without bottom-heat or any special attention. But when carelessly treated, there is great risk of entire failure of the crop in an ungenial season, and in the best seasons the produce will fall far short both in quality and quantity from what might be had by a thoroughly systematic course of culture. For the production of a good supply of marrows and squashes for the table during summer, we have already offered a few practical hints in the section on ridging out cucumbers. Where it is required to grow large gourds for winter use, a great bulk of fermenting material should be provided, and having been frequently turned, should be made into a mound, and soiled over with one foot depth of strong loam, with which has been incorporated about a sixth part of rotten dung. The plants should always be brought forward in pots, so as to be strong by the middle of May. The manner in which marrows and gourds

are starved in the seedling state is lamentable, and it is against this practice we would wage war most anxiously. A luxurious growth is essential from the first, and this should be insured by using a turfy compost, plenty of water, occasional stopping to prevent the plants from getting unmanageable by their size, and regular shifts up to seven-inch pots, if room can be afforded, so that they may be put out late, and suffer no check by ungenial weather. Then for the further management, plenty of liquid manure alternating with plain waterings, and where size of fruit is an object, only one or two should be allowed to come to maturity. The summer of 1862 was very unfavourable to the growth of marrows, and in our district there was a general complaint of failure. We had two plantations, one away from home, on a piece of land rented as supplementary to the home garden, and another which had our daily attention. The plants for both were of the same batch, and there was no difference in their strength when put out. Those on the land away from home were ridged out on beds with two feet of rotten dung and a foot depth of soil; those at home were in a range of open brick pits, and the beds made in the same way. In these the plants were turned out, one in the centre of each compartment, eight feet by nine feet (the breadth of two lights) at the end of April, when the weather was like June. The plants were sheltered with a small box-frame, four feet by two feet, from which the lights were removed all day. They made a free growth, and by the time they had grown so large that the frames had to be removed, they were showing fruit abundantly, and we cut fruit from them the second week in June, when the plants in the other plantation were looking starved, and were evidently not worth the ground they occupied. We had enormous crops from our home plantation, but the other gave very few marrows worth cutting. Our home crop afforded a lesson to many gardeners of the district, and

we name it here as a lesson for our readers, that what is worth doing is in this case worth doing well. In the selection of gourds many of the most ornamental are also most useful.

For size, the mammoth gourds claim pre-eminence, and it is on record that a weight of 250 lbs. avoirdupois has been attained on the Continent, but we cannot hope for such results. The large Yellow Mammoth is a very handsome gourd, and it requires only a moderate amount of skill to grow a few fruits to the weight of 80 or 90 lbs. The Citronelle, or Citron Gourd, is a valuable one for winter use, as when ripe a fine preserve may be made of the flesh. It is a variety of the hard-fleshed water-melon, and the fruits average from three to five pounds in weight. It requires a little more care in cultivation than most other gourds in the early part of the season, as, being of a tender constitution, it is apt to suffer from damp and cold if planted out too early; but after the middle of June its growth is vigorous, and it requires no more care than ridge cucumbers. When ripe it does not change colour or become soft, and it keeps well. Another very useful gourd is the Hubbard Table Squash, which averages seven pounds in weight, and yields a large crop, if allowed plenty of room to ramble over a mound of dung covered with eighteen inches of turfy loam. When ripe, the flesh is of a deep orange colour, and it may be used as a vegetable in soups, or for pies or preserves. For general usefulness the common pumpkin, white marrow, and custard marrow, are the most useful of all esculent gourds. The fruitfulness of the custard gourd, when fairly dealt with, is amazing, and nothing can equal it on the table either for beauty or flavour. But it is not so early as the common green pumpkin and common white marrow, and a few plants of each should be grown, as the marrows take the lead in the early part of the season, and the custards come into full bearing when the others are beginning to decline.

PROPAGATION OF MISTLETOE.

SOME of your readers may be glad to learn how easily Mistletoe can be grown. For several years I had tried all the approved plans. All these I had found to fail, when I heard of a neighbouring working gardener, said to be skilled in the propagation of the parasite. I engaged his services, and at the beginning of last March I wrapped myself up and went with him for the purpose of witnessing his *modus operandi*, which consisted in squeezing the seed and pulp out of the skin of the mistletoe berry, etc., and applying it to the

bark of various apple-trees, where it adhered by its own viscid nature, and it has, in the very great majority of cases, indeed, in nearly all, vegetated successfully; to use my operator's own words, it should be "stuck on where the bark is most slick," and March he considers the best month for the operation. On a Siberian crab, he placed four seeds, and they have all grown, having now the appearance of diminutive snails with the tips of their horns inserted into the bark.

DRUS.

MARCH, 1863.—31 DAYS.

PHASES OF THE MOON.—Full, 5th, 2h. 46m. after.; Last Quarter, 12th, 6h. 55m. after.; New, 19th, 2h. 37m. after.; First Quarter, 27th, 8h. 58m. morn.

D M	Sun		Moon		Weather near London, 1862.						THE COUNTRY.	
	rises.	sets.	rises.	sets.	BAROMETER.		THERMOMETER.			Rain.	The Garden and the Field.	
					Mx.	Min.	Mx.	Mn.	Me.			
	h. m.	h. m.	Aft.	Morn.								
1	6 48	5 37	1 36	4 30	29.95	29.78	43	29	36.0	.00	Ivy-leaved speedwell fl.	
2	6 46	5 39	2 41	4 57	29.59	29.50	37	15	26.0	.00	Lungwort fl.	
3	6 44	5 41	3 49	5 20	29.28	29.22	49	14	31.5	.00	Mistletoe fl.	
4	6 42	5 42	4 59	5 42	29.79	29.55	47	14	30.5	.00	Pilewort fl.	
5	6 40	5 44	6 10	6 2	29.90	29.41	45	33	39.5	.00	Ash fl.	
6	6 37	5 46	7 21	6 21	29.50	29.45	58	45	51.5	.09	Shepherd's purse, fl.	
7	6 35	5 48	8 34	6 42	29.39	29.56	60	45	52.5	.01	Star of Bethlehem fl.	
8	6 33	5 49	9 52	7 4	29.63	29.54	61	41	50.0	.02	Violet fl.	
9	6 31	5 51	11 7	7 31	29.55	29.39	54	36	45.0	.15	Muskwood crowfoot fl.	
10	6 28	5 53	Morn.	8 4	29.96	29.88	59	51	55.0	.24	Apricot and peach fl.	
11	6 26	5 55	0 22	8 44	29.83	29.65	55	37	46.0	.04	Gooseberry foliates	
12	6 24	5 56	1 30	9 35	29.70	29.64	58	35	46.5	.06	Daffodil fl.	
13	6 22	5 58	2 28	10 38	29.99	29.91	54	38	46.0	.02	Two-leaved squill fl.	
14	6 19	6 0	3 15	11 53	30.11	30.08	49	38	43.5	.00	Ground ivy fl.	
15	6 17	6 2	3 54	After.	30.10	30.01	49	39	44.0	.00	Laurel fl.	
16	6 15	6 3	4 26	2 30	29.95	29.81	46	38	42.0	.41	Common stitchwort fl.	
17	6 13	6 5	4 51	3 52	29.75	29.73	45	35	40.0	.26	Poplars fl.	
18	6 16	6 7	5 15	5 11	29.76	29.67	49	25	37.0	.00	Dog-tooth violet fl.	
19	6 8	6 8	5 36	6 28	29.61	29.49	53	35	44.0	.02	Lilac foliates fl.	
20	6 6	6 10	5 58	7 44	29.42	29.32	39	30	34.5	1.11	Black-currant foliates	
21	6 4	6 12	6 22	8 58	29.68	29.37	43	32	37.5	.07	Elm fl. sweet briar ditto	
22	6 1	6 13	6 47	10 9	29.98	29.92	44	31	37.5	.14	Marsh marigold fl.	
23	5 59	6 15	7 17	11 15	29.82	29.52	44	34	39.0	.42	Spurge laurel fl.	
24	5 57	6 17	7 53	Morn.	29.54	29.45	65	39	52.0	.02	Hawthorn foliates	
25	5 54	6 18	8 36	0 14	29.47	29.44	63	46	35.5	.08	Snowflake fl.	
26	5 52	6 20	9 25	1 7	29.50	29.37	56	40	48.0	.10	Periwinkle fl.	
27	5 50	6 22	10 21	1 51	29.39	29.24	60	43	41.5	.18	Gooseberry fl.	
28	5 47	6 23	11 22	2 28	29.18	29.11	51	39	45.0	.00	Privet foliates	
29	5 45	6 25	After.	2 57	29.24	29.19	51	38	44.5	.00	Hazel foliates	
30	5 43	6 27	1 33	3 21	29.32	29.29	59	41	50.0	.13	Common almond fl.	
31	5 41	6 28	2 42	3 44	29.62	29.48	60	34	47.0	.08	Horse-chesnut foliates	

THE GARDEN GUIDE FOR MARCH.

KITCHEN GARDEN.—Get manure on to the plots that are to be sown or planted this month and next, and dig the ground over deeply, and leave rough. Level down the ridges of ground prepared last month, so as to be ready to sow and plant as soon as weather permits. Plant the main crop of potatoes where the ground is well drained at once, but on damp soils wait till next month. It is not safe to manure for potatoes, but charred rubbish, old mortar, and other dry materials may be used to lighten the soil and nourish the crop. For main crops choose a plot that was well manured last year; for early sorts, that are to come up before the autumn-rains set in, manure may be dug into the trenches. Potatoes are best planted in trenches, and covered loosely with soil; dibbling is apt to cause rotting by the holes getting filled with water. Horseradish may be planted in any spare corner, but the ground should be dug deeply, and the roots will come finer if the subsoil is well manured. The crowns should be planted fifteen inches deep, and six inches apart every way, and the holes filled with fine coal-ashes, or the sets put in as the trenching proceeds. Any part of the root will do as well as the crowns, if cut into inch pieces. Mark out onion-beds, and let the soil be liberally manured. Get ready for all successional summer crops, so as to have the ground firm and well sweetened in time to receive them.

Sow turnip, long-radish, main crop of parsnips, horn-carrot, cauliflower, cabbage, savoy, brocoli, main crop of onions, peas for succession, lettuce of all kinds, round spinach, parsley, and small salads.

SELECTIONS FOR THE KITCHEN GARDEN.—The following are the very best in their several classes; there are many others as good as some of those named, and in no case is it recommended to discard favourite local varieties. These lists are offered as guides both for improving the selections of experienced cultivators, and to assist the inexperienced to select from the multitudinous enumerations of the trade catalogues. *Early peas*: Dillistone's Early, Carter's Champion, Daniel O'Rourke. *Second early Peas*: Advancer, Champion of Paris, Dickson's Favourite. *Main crops*: Prizetaker, Veitch's Perfection, Hair's Dwarf Mammoth, Auvergne Marrow. *Late*: Knight's Dwarf, British Queen, Ne Plus Ultra. *Early potatoes*: Sutton's Racehorse, Daintree's Earliest (new and fine), Walnut-leaf, Handsworth Early. *Main crop*: Hud-

son's Early May, Soden's Early Oxford Improved Early Shaw, Dalmahoy, Flour-ball, Fifty-fold. *Early beans*: Dwarf Fan, Mazagon. *Main crop*: Long Pod, Johnson's Wonderful. *Finest for size and flower*: Taylor's Windsor, Green Windsor. *Early cabbage*: Carter's Early, Early Champion, Shilling's Queen, Rosette Colewort. *Main crop*: Wheeler's Imperial, Enfield Market, Large Imperial, King of the Cabbages. *Parsnip*: Hollow Crowned and Sutton's Student, the last named is a new variety raised by Professor Buckman, it produces clean symmetrical roots admirably suited for exhibition, and is the best flavoured of all. *Carrot*: Early Horn and short French Horn for shallow soils, and to sow early; James's Scarlet and Long Surrey for main crop and handsome roots; selected Altringham for allotment lands, excellent for the table, makes enormous roots, but is not handsome. *Cress*: Australian Golden, exquisite flavour, and a good substitute for watercress, tripled curled; and Perennial American. *Cucumbers*: Rifleman, Carter's Champion, Lynch's Star of the West, Martin's Long Gun, Mill's Jewess. *Leek*: London Flag, Musselburgh. *Cos lettuce*: London, Brighton, Carter's Giant White, Hardy Green, Florence. *Cabbage lettuce*: Hammersmith, Malta, Neapolitan, Wheeler's Tom Thumb. *Melon*: Carter's Excelsior, Bousie's Incomparable, Turner's Gem. *Onion*: Deptford, White Glove, James's Keeping, Strasburg, Tripoli, Silver Skin.

CUCUMBERS AND MELONS.—Keep up the heat by linings if necessary; give air on fine mornings, but beware of chilling the plants. If the weather is frosty, with bright sunshine, shade the pit with netting to prevent scorching; thin the fruits if they set too freely. Sow cucumbers and melons for succession, and sow also cucumbers for ridging out.

Melons and Cucumbers in the forcing pit to be kept carefully trained about twelve inches from the glass, to be regularly stopped, and at a temperature of 70° by day and 60° by night. Sow now for plants to bed out in frames and pits, and for succession in the early forcing-house.

FLOWER GARDEN.—Lightly fork the borders, so as not to injure the roots of herbaceous plants, and make the surface moderately fine, to give a neat appearance. Sow hardy annuals in the borders, and put a tally to each patch; as soon as large enough to handle, thin the patches, and plant out the thinnings wherever required; or pot them for blooming in the windows.

Put stakes to newly-planted roses and other trees, and mulch beds of roses to protect their roots from dry bleak winds.

ORCHID-HOUSE.—Many of the subjects in this house will now be coming into growth, but must not for that reason be stimulated too suddenly by any undue rise of temperature. There are very few that will require more than a temperature of 65° as a maximum, and 55° minimum, and the amateur cultivator is advised to keep to this moderate range as much safer than higher temperature at this time of year; but as the month advances the midday temperature may be allowed to rise to 70°. Growing plants will want water, and this will be best administered by dipping, so as to thoroughly wet the roots, and without suffering a drop of water to lodge among the leaves or bulbs. Those that want a shift, to have it as soon as they show signs of being really on the move. All that are suitable to grow on logs or in baskets should be so planted, as far preferable to pots. *Aerides*, *Vandas*, *Saccolabiums*, *Phalænopsis*, and *Zygopetalums*, need now the warmest end of the house as they are in free growth. Care must be taken not to wet their young shoots. *Cyrtopodiums*, *Barkerias*, *Cyanoches*, *Phajus albus*, and *Wallichiana* to be watered with very great care, and with due regard to their condition as to growth, as while they are quite at rest they must be kept rather dry. On bright days water the floor of the house freely. In neglected houses there is at this time of year much injury caused by rot and spot. In the case of the first, cut away the part affected, and fill up the wound with silver-sand or sulphur. Spot is the result of a sappy condition of the plants, and where there is much of it, the only safe course is to increase the temperature and encourage a vigorous growth as early as possible, and the plants will out-grow it. It is invariably the result of excessive moisture in winter, or of cold draughts or of steam, followed by a low temperature.

The month of March is the best time for a general repotting of plants that require a shift and propagating by dividing the pseudo-bulbs. By a decisive cut with a sharp knife between the pseudo-bulbs, dendrobiums may be multiplied with the greatest certainty, in much the same way as taking offsets from auriculas, the cuttings being preferable if they have each a few roots attached. These are to be potted and placed in a shady part of the house, and to have extra warmth and very little water till they begin to grow. Old flowering bulbs, of

D. nobile, *pulchellum*, etc., may be cut away, even if without roots, and if laid on damp moss in a close part of the house will soon emit roots, and may then be potted. At the beginning of the month is the best time to repot *anaëtochilis*; and as these have no fleshy bulbs, great care must be taken as to watering, or they may rot away at the collar. But beware of keeping *anaëtochili* too dry from this time to the end of September. Plants in a thriving condition will require plenty of water and always a little air as they are coming into active growth for the season. The soil for them should be chopped sphagnum two parts, and with one part of fibrous peat and silver-sand.

Orchids that may be in bloom in February.

—*Barkeria elegans*, and *Skinneri*; *Bletia Shepherdii*; *Brassavola Digbyana*, and *glauca*; *Eurlingtonia amœna*; *Calanthe vestita rubra oculata*; *Cœlogyne media*, *cristata*, and *Gardneriana*; *Epidendrum vitellinum*; *Grammatophyllum speciosum*; *Lætia Maryanii*, and *peduncularis*; *Leptotes bicolor*; *Lycaste Deppeii*, *Skinneri*, *Skinneri alba*, *Skinneri delicatissima*; *Miltonia cuneatum*, and *Karwinskii*; *Odonoglossum maculatum*, *membranacea*, *pulchellum*; *Rossii triumphans*; *Oncidium Barkerii*, *bicallosum*, *Cavendishii*, *incurvum*, *unguiculatum*; *Phajus grandifolius*; *Schomburgkia crispata*; *Sophonites cernua* and *violacea*; *Zygopetalum Mackayi*; *Cattleya Walkeriana*; *Cymbidium eburneum*, *giganteum*, and *Mastersii*, *Cypripedium biflorum*, *insigne*, *insigne Maulei*, *purpuratum*; *Dendrobium album*, *moniliforme*, *nobile*, *nobile intermedium*, *nobile pendulum*, and *pulchellum purpureum*.

Orchids that may be in bloom in March.

—*Dendrobium nobile*, *pulchellum*, *macrophyllum*, *densiflorum*, *Farmeri*, *Pierardi latifolium*, *aggregatum majus*, *anosmum*, *Cambridgeanum*, *fimbriatum oculatum*, *littoriflorum*, *nobile intermedium*, *nobile pendulum*; *Bletia patula*; *Brassavola glauca*; *Cattleya amethystoglossa*, *Mossii*, *Skinneri*; *Cœlogyne cristata*; *Cymbidium eburneum*, *cypripedium biflorum*, *caudatum*, *caudatum roseum*, *hirsutissimum*; *Epidendron aurantiacum*, *crassifolium*, *Hamburgianum*; *Lycaste cruenta*, *Deppei*; *Oncidium sarcodeis*, *sessile*; *Phajus Wallichii*, *Phalænopsis amabilis*, *grandiflora*; *Saccolabium miniatum*; *Trichopilia suavis*; *Vanda cristata*.

GREENHOUSE.—To keep the conservatory gay, put roses, rhododendrons, azaleas, and early pelargoniums into a moderate warmth, to bring them into bloom. Give plenty of water and liquid manure to plants coming into bloom, especially *Ame-*

ricans, camellias, pelargoniums, and acacias. Plants done blooming should be tended with care to secure a healthy growth of new wood, and be cut in if required before they spend their strength at the ends of flowering shoots. Give plenty of air, and increase the heat in all plant-houses. Use the syringe freely, to keep a clean foliage; repot any plants that want more root-room; see to the training of greenhouse and conservatory climbers before they get into too free a growth to be handled conveniently.

Auriculas.—These will require frequent watering and plenty of air, but must be sheltered from cutting winds. Weak liquid manure will strengthen the trusses. Green-fly will appear as the plants make their new growth, and must be promptly met by means of tobacco-smoke. Polyanthus use the same treatment.

Azaleas.—Take up and pot such as are wanted for furnishing, and put into a moist heat of 55° by night, and 65° by day. Use turfy peat and silver-sand, and press the soil firmly into the pots round the old balls. Give plenty of water, and train out into good shapes.

Calceolarias may be struck in any quantity for blooming this season; a very slight heat is sufficient. Use young tender shoots, and root them in sandy peat. Specimen-plants for early blooming will come on nicely along with Americans and other plants that like moisture; but they must be in the coolest and airiest part of the house, for much heat is an injury to them. Give liquid manure once a-week.

Cinerarias must have plenty of light and air, and all superfluous shoots and injured leaves should be cut clean away. A cool shelf near the glass is the best place for them; and they must be watched that green-fly does not take complete possession of their succulent foliage.

Carnations and Picotees.—Clean up the plants, and wash the outsides of the pots. Make ready for potting in the second week of the month, and search the compost well for vermin, or much mischief may ensue.

Dahlias should be got to work without delay. Divide the old roots, one eye to each piece, and pot in light rich loam, and plunge the pots in a warm pit on the tank of a propagating-house. Those started last month may be propagated by cuttings, if stock runs short; the cuttings must be taken under a joint, and rooted in thumbs filled with poor sandy loam, to be shifted into rich light soil as soon as rooted.

Hollyhocks not yet planted out must be hardened by free exposure to the air,

but protected from severe frosts and storms. Those already hardened should be planted without delay, and stakes placed for them at once, as driving the stake down hereafter will do injury to the roots.

Tulips must be kept hardy by free exposure, but severe frosts, especially after rain, will do them much harm. Protect, therefore, as occasion may require, but be careful not to retain the coverings one hour after a change of weather has rendered them unnecessary.

Pelargoniums must be stopped where the growth is irregular, and tied out to good shapes for blooming. Give more heat and more water as the days lengthen; plenty of light, and manure-water once a-week. The syringe and the fumigator must both be kept in action to keep vermin in check. Scarce kinds of pelargoniums may now be propagated from pieces of the roots put into small pots, leaving the top just visible; they must be in a moist heat, and shaded till they show shoots.

FRUIT GARDEN.—Mulch raspberries with four inches of half-rotten dung, the ground between them must never be dug, not even with a fork. Trees newly planted to be securely staked, and in dry soils it will be as well to mulch their roots. Finish pruning and nailing, have ready calico, netting, or whatever else is used for protecting wall trees, which will be in bloom early this year. Lay down plenty of rotten dung between strawberries. All kinds of fruit-trees and fruit-bushes may yet be planted though it is full late.

STOVE.—Cut down plants that have flowered; and put in cuttings in a good heat. Newly-potted plants must be carefully watered, to guard against soddening the roots. Plant out achimenes in shallow pans.

Pansies.—Shift those intended for blooming in pots; stir the soil between plants in beds, and carefully tread in any that the frost has lifted. New beds may be planted in the first week of this month.

FORCING.—A temperature of 50° night, and 60° day, will bring on roses, daphnes, lilacs, weigelias, kalmias, azaleas, double plum, almond, and peach, and other of the showy spring flowers, with very little trouble. Keep a moist air, and beware of crowding.

Strawberries under glass will require liquid manure, plenty of air, and to be kept near the glass. Thin the fruit and blossoms as soon as a moderate number are set on each plant.

VINEY.—Discontinue syringing as the vines come into flower, and slightly in-

crease the temperature, and give air only when the weather is mild. As soon as the fruit is set, throw water on the paths, to make a moist air, and use the syringe freely. Tie in the shoots before they get unmanageable, and stop laterals at the

first eye beyond the bunch. Rods saved from the prunings may be put in heat to strike; hardy kinds will strike in the open air in precisely the same way as currant canes.

TO CORRESPONDENTS.

CULTURE OF ROOT CROPS.—Please tell me what is the best stimulant for carrots and parsnips?—*B. H.* [Salt is largely used in the field-culture of these roots, but the best way to insure a fine crop is to manure the bottom of the trench, and have no manure at all in the top spit. Then by deep hoeing of the soil between the rows until the leaves meet and cover the ground, the spring showers will have their proper effect. The best soil to choose for these roots is a poor, sandy loam, trench it deep, manure the second spit, sow parsnips on the 1st of March, and carrots on the 10th.]

VARIEGATED KAIL.—A lady correspondent, dating from Norwood, has sent us some specimens of garnishing kail, in order to call attention to its merits for winter decoration. These specimens are certainly most beautiful, and worthy of a place in the epergne or drawing-room vase, or to group in winter bouquets. They comprise shades of cream, pure white, delicate green, and rosy flesh all on the same leaf, which is elegantly crimped and curled like the best milliner's frilling. Other specimens are deep crimson, lively orange red, several shades of purple, and one leaf is a richer maroon red than purple orach.

HEATING FORCING HOUSE.—*J. R.*—The heat from your pipes is nearly all thrown away. Your gardener would have placed them much better. But why don't you make hot water tanks of your pits. Your striking and cucumber growing, or whatever else you wish to do, will be much more effectually done by such an arrangement. Take the tan out of the pit, fill up to within a foot and a-half of the top with rough gravel, or any other hard material, on that place a paving of common Yorkshire stone in pieces the width of the pit, let the joints and sides be well cemented. Cement the wall five or six inches from the stone, so as to make the whole watertight; then make a division by a brick on edge throughout the entire length of the pit, to cause flow and return of the water, and cover the whole with thin

slates well cemented at the joints to keep out steam. This will leave you ten or eleven inches of space in which to place mould for your cucumbers, or cocoa-nut fibre, or other plunging material in which to strike your cuttings. Do not fix your tank to the outside wall, but leave a space wide enough to take a pipe all round, which will be found useful in raising the temperature of the house, and drying up excessive moisture. Fit the pipe with a stop valve.

GLADIOLI IN BLOOM IN AUGUST.—*J. H.*—*Brenchleyensis*, very showy, *Adonis*, *Aglæa*, *Courant fulgens*, *Don Juan*, *Goliath*, *Fanny Rouquet*, *Aristotle*, *Madame Condere*, *Hebe*, *Mathilde de Landevoisin*, *Jane Eyre*.

CATALOGUES RECEIVED.—“Alexander Laing, Beverly, Yorkshire, Select Catalogue of Home and Continental Seeds.” “Garden, Agricultural, and Flower Seed Catalogue.” Two copious lists, adapted for customers to fill in the quantities required.—“E. G. Henderson and Son, Wellington Road, St. John's Wood, Catalogue of Flower Seeds, and of Agricultural and Vegetable Seeds.” This substantial trade list has always been held in the highest estimation, and is this year fully as interesting and valuable as ever.—“James and John Fraser, Lea Bridge Nurseries, Essex, Catalogue of Stove and Greenhouse Plants, Roses, Fruit-trees, Conifers, and Miscellaneous Evergreen, and Deciduous Shrubs.” A fair reflection of the resources of this spirited firm.—“Hooper and Co., Central Avenue, Covent Garden, Spring Catalogue of Flower, Shrub, and Tree Seeds.” A first-rate business and botanical list of eighty-six pages, the descriptions full and accurate, and the native country and other particulars given throughout.—“Charles Turner, Royal Nurseries, Slough, Catalogue of Seeds for Kitchen Garden, Flower Garden, and Farm.” Very carefully arranged, so as to include only the cream of old and new varieties.—“Catalogue of Fruit Trees, Roses, Conifers, etc.” Like the former restricted to those of universal merit.—

"Barr and Sugden, King Street, Covent Garden, Illustrated Guide to the Flower Garden." A first-rate catalogue of 112 pages, admirably arranged, containing excellent descriptions and good illustrations of many of the plants, with the quantity of each name, that the reader may know

"What's long, what's short, each accent where to place."

This will be found of no small service.—

"William Wood and Sons, Woodlands Nursery, Maresfield, near Uckfield, Surrey, Catalogue of Roses." A very useful and large list, with good cultural notes and descriptions.—"F. and A. Dickson and Sons, Chester, Catalogue of Vegetable and Flower Seeds." A full, well-arranged, and interesting list.—"A. Stansfield and Sons, Vale Nurseries, Todmorden, Catalogue, No. 6, of Stove, Greenhouse, and Hardy Ferns." The numbers extend to 830, and include a few interesting novelties.—"Downie, Laird, and Lang, Stanstead Park, Forest Hill, Catalogue of Florists' Flowers, including Pansies, Dahlias, Hollyhocks, Carnations, Antirrhinums, Fuchsias, Chrysanthemums, etc., new and old."—

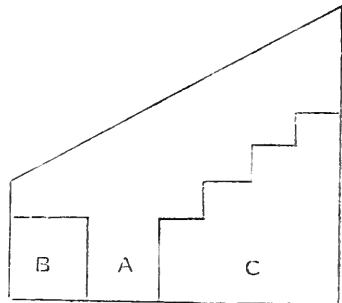
"Smith and Simons, Argyle Arcade, Glasgow, Cultural Guide and Descriptive Seed Catalogue." Very well got up, with valuable hints upon the cultivation of kitchen garden crops, preparation of the soil, management of hotbeds, etc.—"Pridham and Sanders, College Grounds, North End, and Sion Nursery, White Horse Road, Croydon. A small, but compact list of the best sorts, invaluable to the amateur and cottage gardener.

QUINCE STOCKS.—*W. M.*—Your note did not reach us in time for reply last month, although you appear by the date of it to have written in good time. We have always found the propagation of the quince such an easy matter, that it has never occurred to us to offer remarks upon it. The simplest way is to treat them much the same as currant-trees. In November prepare cuttings of young ripe wood about six joints to each, the two lowest buds to be removed, and insert these in rows in good garden mould, the rows to be eighteen inches apart, and the cuttings six inches apart. Keep the ground clean all the next summer, and in the November following take them up and transplant them into rows two feet apart, and the plants one foot apart, and the following spring they can be grafted. Last year we put in a lot of quince cuttings on the shady side of

a wall in April, and all but a few of the weakest rooted; so late planting is not fatal to success, though it is not advised. Seedling stocks have more vigour than those from cuttings; sow in autumn at the same distances as cuttings are planted. They will come up freely the following spring, and a few may show in their leaves the promise of a good habit of fruiting.

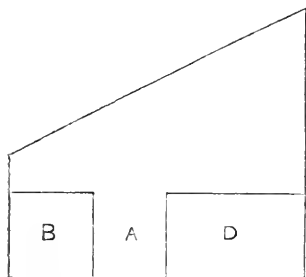
ANTENNARIA MARGARITACEA.—Several correspondents have written to inquire where to obtain this plant. We are unable to reply. We have referred to several trade catalogues for it, but in vain. As we have a large stock of it, we shall be glad to do as we have done on former occasions, when plants have been recommended, which were not obtainable through the usual channels, that is, we will give a few roots to any who apply for them. Correspondents wishing for plants are requested to send real names and addresses, with six postage stamps, with every application. We will have a quantity taken up and packed in chip boxes. Twelve stamps will frank enough for any one to get up a stock of five or six yards this season. This notice will probably clear off our stock in a few weeks.

ARRANGEMENT OF GREENHOUSE.—*No Name.*—We do not know what you propose growing in your greenhouse, but we presume ordinary greenhouse plants, and vines on the roof. Your



house having so sharp a pitch, is first-rate for the ripening of grapes. Along the entire length of the front erect a shelf of wood, slate, or stone—stone is preferable to any other material, as there is always a very grateful moisture retained by it from the watering of the plants standing upon it; let the shelf be two ft. six inches in height, this will make it six inches from the glass in the front. This shelf will be found very useful for

such things as Tom Thumb and other geraniums, calceolarias, primulas, and a number of things that like to be near the glass. It would also be a first-rate position in which to bring on a few strawberries in pots, if desired. If the usual inhabitants of the greenhouse are cultivated, the back of the house would be best occupied with a rising stage of



A, Door; B, Shelf; C, Stage; D, Pit.

wood, the shelves to be inch yellow deal and the supports two-inch quartering, the bottom shelf to be on a level with the front shelf, so that the light may play freely upon the plants that stand upon it. It would be an acquisition to devote a portion of the space at the back, say ten feet, to a brick pit, to contain tan or other fermenting material, in which specimen fuchsias, vines in pots, or any other plants, might be plunged.

SET OF BEDS, HERBACEOUS PLANTS FOR EXHIBITION, ETC.—*Lobelia*.—No. 1 on your planting violates a rule which we hold to very sternly, and to obviate the juxtaposition of yellow and red, we should plant the bed thus:—*Cineraria maritima*, *Perilla*, or *Amaranthus melancholicus* ruber, *calceolaria*, and centre line of *Punch*, repeating again on the other side. This throws out the *ageratum*. No. 2, use blue *lobelia* instead of the *anagallis*, and the effect will be richer. No. 3, *Stachys lanata* will make a better front line to Tom Thumb than to *Calceolaria aurea*; say *stachys*, Tom Thumb, *Calceolaria aurea* and *ageratum* for the centre, and the same the other side repeated. In this bed a scarlet or yellow centre will be objectionable, as it will draw the eye away from the other two beds, and we would put scarlet and orange in juxtaposition for the sake of a sober centre line of *ageratum*. But your planting is good according to prevailing fashions, though not precisely such as we should adopt. The plant you inclose is *Gaza-*

nia splendens. The following are twelve good herbaceous plants for exhibition, all blooming about the same time:—*Alstræmeria pelegrina*, *Statice puberula*, *Statice pseudo-armeria*, *Campanula nobile alba*, *Campanula rotundifolia alba*, *Eriogonum Fraseri*, *Eriogonum speciosum*, *Eriogonum macrocarpum*, *Aselepias tuberosa*, *Erigeron philadelphicus*, *Lotus corniculata pleno*, *Melitta melisophylla*.

SOWING PEAS.—How am I to sow peas?

You say in your second volume, p. 154, "stretch the line, and sow regularly," etc. Now, should there be but one line of peas in the drill, or should the seed be sown the whole breadth of the drill?—*T. Holroyd*. [Some peas, such as Early Warwick, Emperor, Auvergne, and others of similar habit, should be sown thickly, but evenly, in the drill, thus:—



If sown in a single line, the crop would amount to nothing. Others, such as *Scimitar*, *Veitch's Perfection*, *British Queen*, and all the strong-growing marrows, should be sown in double rows in the drill, an inch apart, thus:—



These are of branching habit, and need more room than the early peas. The more you dig and manure, the more peas you will get. We remind our readers generally that when the land is ready for sowing, a dressing of the surface with unslacked lime does wonders for them.]

FRUIT TREES ON A LAWN.—I have just planted some pyramidal fruit-trees on my lawn, will it be right to lay the turf close up to their stems? With regard to protecting them, I don't want to drive heavy stakes in the grass, I thought of four strips of deal about one and a quarter inch square, and seven feet long, put together, and meeting at the top, thus, A, with tiffany over them. Will this answer?—*J. D., Clapton*. [If the soil is properly prepared, and the trees properly planted, turfing close to them will do them no harm. We have in these pages objected to turfing close to trees intended to grow large, and especially to turfing close to standard roses, because turfing tends to starve them. But as a little starving favours a fruitful habit, the roots of your trees may be turfed over. If they are merely planted in holes in soil not pre-

vously prepared, you had best leave the soil open round them in a circle two feet wide. The object of protecting trees on lawns is much more to keep the blossoms *dry* than warm, and any plan that will keep intact during a gale, and insure shelter from rain, will serve the purpose. Take care the material used does not anywhere touch the trees, or chafe against them.

SHADY BORDER.—A portion of my garden never gets any sun except late in the evening. What can I grow in such a position?—*T. P.*, *Peterborough*. [Many good things will suit your shaded border. All the members of the genera *Aconitum*, *Delphinium*, and *Helianthus* will thrive in it. The common Christmas rose will do well if the soil is good. Hollyhocks the same, but you must not have expensive kinds. *Papaver bracteatum* and *Armeniacum* will be quite at home there, and all the *Phloxes* are available if the situation is airy. *Polyanthus* and primroses plant plentifully. Double daisies will do if taken up and replanted every September. A fine display may be made in autumn by turning out a number of fuchsias. Lastly, British ferns will enjoy the shade, and you may, if you like, appropriate the border wholly to them. Thus you see a border need not be shabby for lack of sun.]

TOMATA DE LAVE.—*A. D. S.* informs us that he has found it difficult to ripen the fruit of this upright-growing tomato, and wishes to know if any of our other readers have had the like experience. We have seen it ripen well in the open air, and believe it to be in no way peculiar in this respect. We have often advised the cutting of the stems with the green fruit on them, and placing them on a back shelf in a sunny greenhouse, when they are stubborn, or the season is far advanced before they ripen.

VARIOUS.—*M. B. G.*—The only way to insure bloom on Banksian roses is to encourage the small twiggy branches; if these are shortened, a profusion of strong shoots will be produced, and the object of the cultivator will be defeated. You might try the shortening of the spurs on a few selected rods, so as to get bunches next season close to the stem, but we cannot hold out any fair prospect of success. Your aspect is not at all suited for Banksias; they require even in the best climates a south wall.—*Arator*.—One object was to get rid of the clay, another was to use as much of the clay as possible. We are so situated that any scheme for working off a little

clay is worth our attention, and we keep always a heap of pulverized clay to add to composts; roses especially are always sure to have some of it in the mixture they are potted in. The trench was about six feet wide, and afforded space for five rows of potatoes. It was filled up to within two feet of the level with clay, and to about two feet *above* the level with vegetable refuse. Thus there was a bed of four feet depth above the clay, so the six inches of clay on the top amounted to only a ninth part of the whole bulk.—*A. B.*—Iron stakes should be regularly painted, and the ends that are thrust into the earth should be made hot, and then dipped into a boiling mixture of pitch and tar. Pitch alone is too brittle, and chips off. Our plan is to have a good fire made in an extemporized furnace of loose bricks. On this the pot is placed, and the stakes are made hot by putting their ends into the fire at an opening in front between the bricks. A few at a time are drawn out and dipped. If oil is used the iron should be red-hot, and that is not an easy matter. Your third query cannot be answered briefly. Sow *Gloxinia* seed in March, and get up the seedlings in peaty compost, and next month we will consider the case.—*K. M. I.*—Good 22 oz.; large squares and small laps.—*G. W. P.*—We have given the name and address of the original maker of the Waltonian case more than a dozen times. We cannot repeat it, for we do not know what has become of him, whether he is alive or dead. It is a pity some manufacturer does not take up this subject. There might be a fortune made in it.—*Promising Pupil*.—Your bunch of *Clianthus puniceus*, flowering now in the open air at Gloucester, is a good set-off against the Devonshire folk, who lord it over us so grandly with their Italian climate and soft breezes, moist with the vapour of the gulf stream. It is something new to hear of *Maurandias* standing out two winters in succession, and now "quite green on an east wall." Your white flower is *Arabis alpina*, there is a green sprig without flowers, that is, *Iberis sempervirens*. Propagate them both from cuttings or rooted offshoots after they have done blooming. *Asparagus* beds should be dressed with salt every three weeks from the beginning of May to the end of August; half-a-peck may be used to every rod of ground.—*Six Years' Subscriber*.—We imagine we know it, but we must not risk a guess till we learn at what season of the year you saw the plant in bloom.

THE
FLORAL WORLD

AND
GARDEN GUIDE.

APRIL, 1863.

GESNERA, GLOXINIA, AND ACHIMENES.



WE were about to open this paper with a few words of appropriate eulogium on the exquisite beauty of these flowers, when those celebrated lines from *King John* occurred to us :—

“To gild refined gold, to paint the lily,
To throw a perfume on the violet,
To smooth the ice, or add another hue
Unto the rainbow, or with taper light
To seek the beautiful eye of heaven to garnish,
Is wasteful and ridiculous excess.”

We will, therefore, withhold our hand from any attempt to picture the beauties of these charming plants, and so gain the space that might be wasted in superfluous praises for practical directions for their culture. We the more gladly seize the present opportunity of treating upon this subject, because it is quite time that these flowers were popularized, instead of being—as they have been so long—exclusively enjoyed by the possessors of stoves and the usual costly appliances for high culture. Let it be fully understood that the possessor of a greenhouse, or even of a frame, may send his dozen or more Achimenes, Gesneras, or Gloxinias to a flower-show, and the culture of these plants will be extended indefinitely, and the FLORAL WORLD will have added to the number of its successes, and secured afresh the thanks of its myriad supporters. There is positively no difficulty whatever in growing any of these three favourites of the stove by what we are accustomed to call “makeshift” methods, and the best way, perhaps, to prepare the novice for the venture will be to describe briefly the routine followed for their culture in the stove.

STOVE TREATMENT OF GESNERA AND GLOXINIA.—The bulbs are potted singly in successional batches from the end of November to the end of March, but the most important batches are those put in in January and February, as these come into bloom when their flowers are most needed,

both for house decoration and exhibition. In potting, the bulbs are merely pressed on the surface of the soil. The compost used is a mixture of equal parts fibrous loam, turfy peat, and leaf-mould, with about a half part of silver-sand. The bulbs are potted firm, and have little or no water till growth has commenced. They are put in a moist bottom-heat of 60° to 70°, and as they make free growth are liberally supplied with water. As fast as they fill the pots with roots, they are shifted on, and may be flowered in 5-inch or 7-inch pots, according to the means at command and the wish of the cultivator. Very nice plants may be bloomed in 48-sized pots, but as *Gesnera cinnabarina* and *zebrina* are remarkably beautiful both in foliage and flower, we prefer to flower them in nothing less than 32 size, and to grow a few specimens to fill 24-sized pots. The best place for them in the stove is the bark-bed, where, owing to the moist atmosphere, the foliage acquires its full beauty. If they must be placed in a comparatively dry position in the stove they may be occasionally syringed until the flowers show colour, but it is not good practice to syringe any woolly-leaved plants, and should always be done with caution. As they go out of bloom they are to have less water, and the supply to be lessened so that by the time the tops are dead the bottoms will be dry. They are left in the pots where neither frost nor moisture can reach them, until the time arrives for potting them again. The proper temperature in which to rest them is 50°, but if they are quite dry, a temperature of 40° will not harm them.

GREENHOUSE AND FRAME CULTURE.—Seeing that a temperature of 60° is sufficient to start the bulbs, there is no reason why a stock of the very best should not be grown in a common frame or pit with dung-heat. It is as easy a task as growing a few cucumbers, and there is not an amateur in the country but might have his annual show of *Achimenes*, *Gesneras*, and *Gloxinias*. The matter of first importance for the beginner in this work is to wait till the middle or end of March, so as to be sure of sun-heat to help out the growth. About the middle of March make up a good dung-bed, and soil it over with six inches of coe-na-nut dust. When the heat is steady at 70°, lay down three inches of peat broken small, but not sifted, and on this press the bulbs in rows across the bed, four inches apart; shut close, and give no water. The light must be pushed down every morning, and the heat regulated by giving air, if needful, to prevent it rising above 75°; if it is at 60° the first thing in the morning, it will be right at all other hours. When a few leaves have pushed, sprinkle in the afternoon and shut up, and by the time the plants have made shoots three inches long, prepare another bed, or get material ready to line or remake the first bed. We have used grass mowings as linings next the brick wall in pits constructed on the plan frequently recommended in these pages, and found it a very cheap and effectual method of raising the temperature at any time. The object of preparing to increase the temperature is to allow of the potting, which should be done now, and when the plants are potted they should be replaced, and have a temperature not less than 75° to give them a good start. Take them out with a trowel carefully, and they will lift with fine balls of roots. Be careful not to chill or exhaust them in the process, and lift only a few at a time so as to have them quickly potted and replaced. This method of starting them in the bed produces very strong plants from the first, but it is rather more troublesome than putting them separately in small pots and plunging to

the rim, and if other subjects are placed in the same bed, the potting will be the most convenient method for the beginner. When replaced in the bed, and linings supplied, soak the bed with water, without wetting the leaves of the plants, and soak the soil in the pots with tepid water, and shut up and shade.

The compost for potting should be the same as before, peat, leaf, loam, and sand; but, where cocoa-nut dust is used, the peat may be dispensed with, and the compost may be half turfy loam to one and a half cocoa nut, with a tuft of the fibrous part of the cocoa waste for drainage, and only one crock over the hole in the pot. As the flower-stems rise, give air carefully and water plentifully, and as soon as the flowers begin to show colour remove them to the greenhouse or conservatory, and they will bloom to perfection. When the bloom is over, place them on a warm pavement out of doors, and water moderately, giving less and less to encourage them to go to rest, and, when the stems are nearly dead, lay all the pots on their sides on the top shelf of a lean-to house, where the autumn sun will thoroughly roast them. By the first of October they ought to be well ripened, and should be put away where they will have an average temperature of 45°. As those who are likely to grow them in this way have usually no better place to keep them than a closet indoors, it is best to remove them early for fear of injury by damp, and a place anywhere in the top rooms of a dwelling-house will be the best place for them till spring returns again.

SEEDLINGS.—Fine collections may be raised from seed, and the seed sent out by the trade is generally good. Seedlings may be raised in a dung-bed as easily as in the stove. Sow it any time in March, and till the fifteenth of April. Shallow seed-pans should be filled with first a layer of cocoa-nut dust, and the remainder peat, broken fine and mixed with a fourth part silver sand. Sow thin, and cover the seed with a dusting of peat powder, and cover with squares of glass. Place the pans in a heat of 70°, and, when the seedlings have each two good leaves, transplant them singly into thumb pots in the same mixture as recommended for flowering plants, but with fine sandy compost to fill in next the roots. Replace them in the bed, and, when they fill the pots with roots, shift to 60-sized pots, and in these let them remain for the season and till the next spring, taking care to ripen them off well in the autumn. These will not flower till the second year. By sowing in February, and growing them on with great care in a steady moist heat of 70°, some will flower the first season.

PROPAGATION BY CUTTINGS.—These plants readily increase by leaves and cuttings, but leaves are used only when some scarce variety is required to be increased in great quantities, and we must defer the consideration of that method till next month. Tuberous-rooted varieties may be easily increased by division of the tubers. To grow them from cuttings, take the cuttings off at the second joint from the top, dibble them into a mixture of half peat and half sand in shallow pans, cover with bell-glasses, and place paper over the glasses or smear the glasses with wet clay, and place the pans on a moist heat of 70°. Keep them moderately moist, and, when rooted, pot them off in small pots in one of the mixtures already recommended. After potting, plunge to the rim in a warm bed and keep shaded till they begin to grow again. Then let them have full sun, water frequently, and sprinkle the leaves lightly, but ne

this when the sun shines on them. These will require for the last shift of the season pots not more than five inches across at the rim.

ACHIMENES are grown in the same way as Gesneras and Gloxinias, but, as the tubers are very small, several are potted together. It is best to give these their first start in peat in the pots in which they have been wintered, giving very little water till they begin to grow. When the tubers have made shoots an inch and a half or two inches long, shake them out and pot them in six-inch pots, six tubers in a pot in equal parts loam and leaf-mould with a little silver sand, or in half turfy loam and half cocoa-nut dust, partially rotted and well mixed together. Large shallow baskets may be filled with them for suspending from the roof of the house, and those who have only a cool greenhouse should place these baskets in a frame over a brisk dung-heat till the plants are strong; then let the heat decline, and transfer the baskets to their places in the house, where the sun-heat will be sufficient to flower them admirably. They will require a little shade during mid-day hours in bright hot weather, and must have plenty of water till they are out of bloom. When grown in pits and frames, the pots in which they are should be stood upon empty pots inverted, and the bed should be always kept moist. Give air regularly, and close early in the afternoon.

A SELECTION OF SPECIES AND VARIETIES.—*Twelve desirable Species and Varieties of Achimenes*.—*Atrosanguinea*, dark crimson, blooms in August, eighteen inches; *Candida*, white, July, eighteen inches; *Cupreata*, coppery scarlet, August, twelve inches; *Escherii*, purple and crimson, June, twelve inches; *Floribunda elegans*, purple and crimson, October; *Gloxiniæflora*, buff, spotted, December; *Grandiflora*, pale crimson, October, greenhouse, herbaceous; *Intermedia*, scarlet, August, twelve inches; *Jaureguia*, white, carmine eye, October; *Liepmanni*, pale crimson, July, eighteen inches; *Longiflora*, violet, August, greenhouse, herbaceous; *Multiflora*, violet, October, twelve inches.

Twelve Achimenes for Exhibition.—*Ambroise Verschaffelt*, white, with radiating crimson eye; *Belmontiensis*, reddish violet, dotted with crimson; *Carl Woolfurth*, large crimson; *Estelle*, rosy purple, white blotch on lower lip; *Francois Cardinaux*, rosy purple; *Carminata splendens*, carmine, rose eye, spotted orange; *Longiflora major*, violet blue; *Margarita*, pure white; *Meteor*, rosy scarlet, flushed with purple; *Reticulata*, veined all over, profuse flowerer, very interesting; *Sir Trehern Thomas*, rich crimson; *Mauve Queen*, flowers larger than those of *Longiflora major*, colour mauve purple, redder about the eye, thickly spotted below the eye with crimson dots on a yellow ground.

Twelve best Gesneras.—*Cinnabarina*, splendid foliage; *Elongata Arnoldii*, *Doncklaeri*, *Gloxiniæflora*, *Markii*, *Miellenzi*, *Pyramidalis*, *Refulgens*, *Velutina*; *Zebrina splendidissima*, fine foliage; *Purpurea* (purple).

Twelve drooping-flowered Gloxinias.—*Acme*, blue lobes, edged and prettily marked with white, violet throat; *Aspromonte*, broad clear rose lobes, pure white throat, spotted at the base; *Beauty*, bright blue lobes, encircled with purple, white throat; *Flora*, rose lobes, shaded with violet crimson and marked with white, pure white throat; *Illuminator*, beautiful deep crimson, the lobes broadly margined with bright red; *Lauretta*, blue, marbled with white, very distinct and attractive; *Matchless*, lobes rose, shaded with violet crimson, white mouth, the tube prettily striped and spotted with rose; *Optima*, deep rose, encircled with violet, white throat,

very distinct; Princess Beatrice, porcelain blue, each lobe spotted with violet, pure white throat; Queen of Portugal, rose, rich violet mouth, the base of the throat white, spotted with crimson; Sanspareil, pure white, each lobe spotted with crimson, and the throat encircled with violet crimson, very delicate and pretty; Virginie, blush, under lobes bright crimson, violet throat.

Twelve erect-flowering Gloxinias (these are very useful for bouquets).—Anonyma, blue lobes, margined with lavender, white mouth and throat, spotted at the base; Beauty, pink lobes, pure white mouth and throat; Brilliant, bright crimson, the lobes margined with rose, rich violet throat; Celestial, rose lobes, throat encircled with deep violet, base of the tube white, spotted with brown; Cupid, light blue lobes, with white marking, pure white throat; Fairy, white tube and lobes, the mouth peculiarly encircled with violet crimson; Favourite, bright rose, shaded with crimson, throat encircled with violet, white tube; Model, pink, shaded with violet, white tube; Peccress, rich purple, the lobes margined with blue, base of the throat white, spotted with brown; Princess Alexandra, white lobes, margined with porcelain blue; Rosalind, soft violet pink, with immensely broad lobes, the mouth encircled with violet, white tube and throat; Serena, soft rose, half of each lobe encircled with white, tube and throat white.

FRUIT CULTURE—THE STRAWBERRY.

THERE is scarcely a cottage garden in the country but has its plot of strawberries, and there is no fruit on which professional gardeners bestow more care for the production of early supplies, and for purposes of exhibition. The immense number of named varieties, and the annual additions of new varieties to the lists, proves how great an interest is taken in the improvement of this favourite fruit, and also how much the varieties differ as to their relative merits according to the circumstances under which they are cultivated. As we have never yet made this fruit the subject of a treatise in these pages, we purpose to go over some old ground, and to broach a few new topics in connection with strawberry culture, continuing the subject from month to month until sufficient for the present has been said. We shall deal with the simplest matters first, to prepare the way for matters more complex, and what is perhaps of more importance, to furnish the less experienced of our readers with directions for the improvement of their practice in this department of fruit culture.

STRAWBERRY PLANTATION.—A deep, heavy loam, inclining to clay, well drained, sloping to the south, abundantly manured and in a breezy open country, will make a good strawberry plantation. But people want strawberries where there is no such combination of favourable circumstances. Thin sandy soils may be improved by the addition of clay and manure. The soil from the bottom of a pond or ditch is the best dressing to be had in a sand or chalk country to improve the texture of the plot for a plantation, and it should be dug in to the depth of two feet if there is that depth of soil to work upon, and at the bottom of the trench should be laid six inches of half rotten dung. This will be mellow before the roots of the plants reach it, and when they do get hold it will keep them hearty during seasons of drought, which are very distressing to strawberries planted on sand or chalk. On very stiff clays it is a folly to expect strawberries unless the ground is well drained; but with perfect drainage, clay soils laying open to the sun will produce the finest strawberries, and

continue long in bearing. But greasy clays may be improved by liberal dressings every autumn with the ashes of charred rubbish, and in spring with half-rotten dung. Strawberries may be obtained in good seasons in tolerable abundance from almost any kind of soil or situation, but the precariousness of the crop, and its inferiority both in quantity and quality when placed under unfavourable circumstances, are sufficient reasons for the exercise of discretion and spirit in the culture, for when liberally treated there is no plant in our gardens that makes a better average return on outlay than the strawberry. Therefore, it is, we advise the grower never to plant under trees, to dig and manure without stint, and to lose no reasonable opportunity of improving the plantations.

PLANTING.—It depends so much on the state of the plants whether it is well or ill to plant at this or that season, that no definite rule can be laid down. We wish to be distinctly understood on this point. We have planted strawberries in every month of the whole year without accident of any kind. Well rooted plants can always be lifted with good balls when they are simply to be moved to another part of the same garden, and plants in pots can always be turned out without breaking the balls, even if loaded with fruit, without injury. But when the plants are taken up in nurseries; much of the soil shaken from the roots; the plants then packed for transit; perhaps exposed in a London seedman's window before being sold—there will be so much exhaustion that the plants must have time to recover before they can fruit satisfactorily. Therefore, those who plant stock supplied from a distance had best plant in August or September; if the plantation is made in spring, February is a good time to plant, as the plants have still time to make roots before fruiting, but if obtained in pots they may be put out at any time, but best from the beginning of February to the end of March, or from the end of August to the end of October. Plant at distances suited to the habit of the variety. Such as

British Queen, Nonpareil, Goliath, require to be two and a-half feet between the plants, and the rows three feet apart. Varieties less robust in habit, such as Black Prince, Wellington, Comte de Paris, etc., one foot to eighteen inches between the plants, and two feet from row to row. All the varieties will bear well at less distances, but the distances we give will pay the best in the end, for the rows can be stirred and manured conveniently, and the free circulation of air amongst the plants will give the fruit its full size, colour, and flavour. We see everywhere crowded plantations, and we never ask about the result, knowing that the possessors of these plots have really no clear idea of what strawberry plants should produce with good culture. *Plant firm*, water liberally if the weather is dry, and continue till rain comes. If possible plant when there is a probability of rain following, and in any case of planting during hot, sunny weather, cover the plants with large inverted pots from ten to five every day, and always leave them uncovered at night. Dispense with the shading as soon as possible, and if possible remove the pots during cloudy or showery weather.

SUMMER CULTURE.—With all the wonders of liquid manure, there is no crop on which it produces a more marked effect to the profit of the cultivator than the strawberry. It should not only be used while the fruit is swelling and till it begins to colour, but after the fruit is all gathered, to swell up the crowns for next year's crop. Manure water should be given twice a-week, and the best is made by stirring fresh sheep's dung in soft water, and using the liquid quite clean. Clear soot water is of great value where the soil is thin and sandy, and on old garden soils, sulphate of ammonia, half an ounce to every gallon of water, may be used with great advantage. It is of great importance to keep the ground clear of weeds, and frequent hoeing between the rows will be very beneficial, especially where watering cannot be regularly practised, as the absorption of dews and light showers

by the loosened soil, will greatly help the plants during drought. But the cultivator must never injure the roots, or dig the soil at all near the plants. Another help against drought is a general mulching of the ground. Mr. Cuthill has a very summary method of mulching and manuring. Early in the spring, before the crowns have begun to move, he covers the whole of the ground, plants and all, with half rotten dung four inches deep. The crowns soon push through, the old leaves perish, and surface roots are formed in the dung, and the crop is heavy and clean. There are two cheap and clean materials available for surfacing, old tan and coconut waste. These keep the fruit clean, prevent exhaustion by drought, and discourage the depredations of snails and slugs. Next to these materials, the next best is long dung, with plenty of straw in it, or straw alone; short grass from mowing suits admirably as to keeping the roots cool and moist, but slugs and snails are so fond of it, that there is often more harm than good by its use.

When the crop is off the ground, the spaces between the rows should be lightly forked over and manured

with sheep, pigeon, or rabbit dung, but no strong manure should ever be placed very near the plants. It matters not how rank the manure is, if it is forked in not nearer to the stools than nine inches. This manure dressing is of great importance, because, after the gathering of the fruit, the plants have to repair their wasted energies, and grow their fruit germs for the next year. Lastly, on this subject, remove all runners except such as are wanted for increase of stock, and those the strongest and earliest runners. At the end of the fourth gathering, destroy the plants and begin again. Of course the thoughtful cultivator will plant new runners annually, so as to have new plants always coming into bearing, so as to clear off the whole plantation piece by piece in the course of four years, after which the old stools are of no value. In case of frost, when the plants are in bloom, a little clean straw shaken lightly over them will be a great help; better still, stretch hexagon netting over the beds on short stakes, the netting to be fifteen to eighteen inches from the ground, and on no account anywhere to touch the plants.

ORNAMENTAL POTTERY.

We have for some time past been employing some new examples of ornamental pottery for the decoration of our windows and entrance-halls, etc. First in the series, we received in the autumn from Messrs. Barr & Sugden, of 12, King Street, Covent Garden, a queer-looking production, called the "Rustic Robin." This is made in a hard ware, in imitation of a block of gnarled oak, and consists of a hollow water-tight receptacle fitted with a perforated lid. It came to us well filled with hyacinths, crocuses, and snowdrops; the flowers and leaves rising through the perforations of the lid, and the bulbs requiring only occasional supplies of water. This has proved one of the best ornaments of the kind we have ever had in use. The bulbs have bloomed in it superbly. We have

great pleasure in recommending it with other wares of similar character sent out by the same house. The "rustic robin" will be useful at all seasons; when the bulbs are removed it may be filled with cut flowers, grasses, anything, in fact, that can be kept alive for a time in water.

Some articles of quite another character have been sent us by Messrs. Hooper, of the Central Avenue, Covent Garden. These are rustic pots and flower-stands very tastefully designed and coloured in imitation of walnut, oak, ash, maple, and other woods. These are not all good alike; some that ought to receive 48 sized pots will only take 60's, owing to the thickness of the sides, and this additional and unnecessary thickness makes them very

heavy. Still, among these there are some very useful and beautiful productions, such as semicircular flower-boxes with perforated lids, baskets and boxes for suspending, and pots suitable to receive plants for the side-board, dining-table, or wherever the appear-

ance of a common flower-pot would be objectionable. People who wish to have their windows and tables made attractive with plants in elegant receptacles cannot do better than make acquaintance with these forms of imitative pottery by visiting the houses named.

ILLUSTRATED FLORICULTURAL JOURNALS.

OUR favourite botanical work is Verschaffelt's "L'illustration Horticole," issued by Verschaffelt, of Ghent, and obtainable in England for a subscription of 14s. 6d. a-year. It is published monthly, and is richly illustrated with coloured figures of new plants, accompanied with descriptions, which occasionally evince considerable botanical and horticultural knowledge. The editor is M. Lemaire, an enthusiastic cultivator, who possesses the happy art of blending the elegancies of erudition with sound practical information. Messrs. E. G. Henderson & Son, of Wellington Nursery, St. John's-wood, have for some time past published a superb

quarterly work, called "The Illustrated Bouquet," of which we have Part XV. before us. This is a truly magnificent work, chiefly devoted to figures and descriptions of new flowers. The present issue contains plates of *Imantophyllum miniatum*, *Primula prenitens filicifolia rubra*, the new Strawberry Titien, and *Reineckia carnea variegata*. This work is in small folio, and is published at 7s. 6d. each number. Either of these works is adapted for the drawing-room table, and as we are frequently asked to recommend serials with coloured figures, we have much pleasure in naming these two as among the best of the class.

FLOWER SHOWS OF FEBRUARY AND MARCH.

ROYAL HORTICULTURAL SOCIETY, FEBRUARY 25th.—This was the first show of the season, and was essentially a small one, but quite satisfactory as to the quality of the contributions. There was just enough competition in hyacinths to give them an interest, and to bring out by remarkable contrast the qualities of those shown by Messrs. Cutbush and Mr. W. Paul, who fairly distanced all other competitors. The hyacinths, crocuses, and tulips were arranged on one side the room, forming a bank of flowers marvellously fresh and fragrant, and on the other side were placed the miscellaneous collections of spring flowers, novelties, and specimen furnishing plants. At the end of the compartment, Mr. William Paul set up a semicircular stand of hyacinths, on which were upwards of a hundred plants, admirably grouped and containing many superb spikes of flower. Messrs. Cutbush took the lead in Class I for twelve hyacinths, ac-

ording to custom; theirs was a truly magnificent collection, so arranged that every spike set off the colours of its neighbours, and so beautifully even that they appeared as if formed from the same model, although they were of very different habit and colour. Mr. W. Paul of Waltham Cross was second. The prizes offered by Messrs. Cutbush served to bring to the show several good collections from amateurs, the best of which was that by Mr. A. Carr.

Messrs. Cutbush were again first in the class for a collection of twelve pots of tulips; these, for the style in which they were exhibited, the size and colour of the blooms, all expanded to the very point of perfection, and the ample and healthy foliage, were decidedly the best collection of flowers at the show; and formed perhaps the finest lot of tulips ever exhibited. Mr. W. Young, gardener to R. Barclay, Esq., Highgate, took first prize for twelve pots of tulips grown

by amateurs; the plants were nicely bloomed, and the foliage in good condition.

A lovely bank of crocuses was put up by Messrs. Cutbush, planted out in the greenest of moss, and artistically grouped to show off the various shades of colour. Mr. Blogg took first position for pot crocuses, and well deserved it.

In the class for the best eighteen forced flowers, Messrs. Veitch stood first, with a charming collection; in the centre was a huge pot of Lily of the Valley, behind it *Amaryllis delicata*, behind that again *Rhododendron Amazon*, with a fine head of rosy purple blossoms, and at the back of the stage, a potted tree of *Wistaria sinensis*, with five bunches of blossoms. On either side of the Lily of the Valley, *Azalea pelargoniflora*, a charming mass of large rosy blossoms, *Azalea Etandre de Flandres*, snow white with rosy stripes; hyacinths, *Grand Vainquer*, and *Charles Dickens*. *Azaleas rubens*, *mutabilis*, with small whitish and creamy blossoms, and *Taylor's Red*; *Citrus aurantium*, *Rhododendron fragrans*, a lovely blush with rosy edges; *Syringa persica*, *Amygdalis persica rubra*, a glowing mass of red peach blossom; *Ribes sanguinea alba*, and *Andromeda floribunda*. Second in this class were Messrs. Cutbush and Sons, of Highgate.

Messrs. Veitch obtained first prize for six pots of Lily of the Valley, smothered with bloom, but poor in foliage. Mr. Salter came second with a like number of plants of the variegated leaved variety, poor in bloom, but marvellously beautiful in foliage, forming more attractive objects than the winning plants. *Primulas* were shown in plenty, but generally grouped with but little regard to effect. In this class the amateurs beat the nurserymen by sheer good culture; Mr. G. Taylor, gardener to C. A. Hanbury, Esq., bearing off the first prize with plants which were perfect models, and all of the same shape and size.

The class for the best miscellaneous collection of plants in flower, was well filled; Messrs. Cutbush

took two equal first prizes for fifty hyacinths and fifty tulips; and Mr. W. Paul an equal first for fifty hyacinths.

MISCELLANEOUS AND NOVELTIES.—The most interesting of these was a collection of small hollies in pots from Mr. W. Paul, sufficiently aged to show their permanent characters. A few seedling *Cinerarias* attracted some attention as being very promising, among which was one from Mr. Tillery, of Welbeck, called *Purity*, a paper white; the equal to which it would be difficult to find. The choicest of the novelties were those submitted to the Floral Committee. The most important was Messrs. Low's plant of *Limatodes rosea alba*, the only white variety of this highly prized orchid yet exhibited. Mr. Day sent a fine plant of *Cypripedium Dayanum*, which obtained a first class certificate; Mr. Bull obtained first class certificates for *Yucca lineata lutea* and *Trichomanes anceps*; and a second class certificate for *Anætochilus argyrea*. Messrs. Veitch sent a pan of a new variegated leaved *Hibiscus*, called *rosea sinensis fol. var.*, which will prove a perfect gem for culture under bell-glasses. Mrs. Stodart, of Pimlico, exhibited samples of rice paper flowers, which are the best of the class ever yet produced.

MARCH 18TH, SECOND SPRING SHOW.—There was a very brilliant display of flowers of various kinds, although the number of camellias and azaleas was by no means large. The greatest subject of interest was the competition for hyacinths, in which Mr. W. Paul, of Waltham Cross, has at length come off conqueror, after a continued perseverance of some years. The judges must have had no easy task to award in this case, as the flowers were so nearly equal. In the class for eighteen hyacinths, the competition was closest, and the opinions of the visitors seemed to differ as to the respective merits of the two collections. In the class for 100 hyacinths, Mr. Paul was again first, and also with six new varieties.

CAMELIAS.—Messrs. Veitch and Son, of Chelsea and Exeter Nurseries,

took the lead in all the classes in which they exhibited, and that deservedly, as their plants were all very far superior to those of the other exhibitors. In the class for six camellias, Messrs. Veitch showed well-shaped, nicely flowered plants of Madame Lebois, Fimbriata. Comte de Paris, Bella di Firenze, Teutonea rosea, and Alba plena. Mr. John Hally, of Blackheath, was second. In Class 3, for four camellias in flower, Messrs. Veitch exhibited Amelia Benucio, Alexina, Alba plena, and Triomphe de Loddi. Class 4, one camellia, specimen plant. The first prize was awarded to Messrs. Veitch for a superb specimen of Princess Bacciocchi, which for symmetry of form and shape of the flowers was extremely beautiful. Mr. Salter, of Hammersmith, was second with a very fine pyramid plant of Chandler's elegans. Besides these, Messrs. Veitch exhibited six fine plants, which were not for competition, and obtained a special prize for three specimen plants of Valtevarado, General Lafayette, and Countess of Orkney, the latter of which was a very lovely object.

The number of rhododendrons present was very few, and consequently there was but little competition for the prizes. Messrs. Veitch were first with a specimen plant of Smitheii superba, about seven feet across, and covered with bright crimson blossoms. Mr. W. Young was second, with Blandianum.

TULIPS.—Mr. Cutbush still carries all before him here, his plants being all exquisitely grown, with fine healthy foliage, flowers perfect in shape, with brilliant colours. In the class for twenty-four pots of tulips, the kinds shown by Mr. Cutbush were Vermilion brilliant, Duc d'Arenberg, Thomas Moore. Grand Duc, Cramoisie, Rouge Louisante. Second, Mr. W. Paul. Mr. Cutbush was again first in the class for eighteen pots of tulips, with Mr. Paul as second. Mr. A. Carr, gardener to B. Moakes, Esq., of Highgate, was first among the amateurs, with Mr. W. Young as second.

The miscellaneous collections of

plants in flower were numerous and good. Four boxes of cut roses from Mr. Wm. Paul, of Waltham Cross, obtained a first prize. These were very charming, and contained some remarkably beautiful specimens of Amare Desportes, Eugene Lebrun, Souvenir d'un Ami, Goubault, Mrs. Bosanquet, Emile Dulac, Louise Odier, Madame Van Houtte. Gloire de Dijon, Triomphe d'Amiens. Dominique Daran. Enfant de Lyon, Charles Letebvre, Duchess d'Orleans, President, Etienne Lecroisnier, etc. A second prize was awarded to Messrs. Paul and Son, of the Old Nurseries, Cheshunt.

Three of the finest tree mignottes ever produced, were exhibited by Mr. John Richards, gardener to Lord Londesborough, and obtained an extra prize; they stood about five feet high—the plants were of the same shape as standard roses and covered with blossom. A special prize was also awarded to Messrs. Cutbush for a collection of twelve amaryllis, the finest lot we have ever seen. For miscellaneous plants in flower, Messrs. Veitch obtained a first prize, and Messrs. J. and C. Lee a second, for a collection almost as good, and two extra prizes were given for collections of new and rare plants; one to Messrs. F. and A. Smith, and the other to Mr. Bull.

The novelties exhibited were not numerous, but were generally very good. Special certificates were granted to Messrs. F. and A. Smith for a collection of eleven double primulas, which were well shaped and remarkably good, with fine foliage and large beautiful flowers of a pale purple; and to Mr. Standish for a plant of Aucuba Japonicamas. and f., with a profusion of small cruciform flowers of a dirty brown colour, and small, oval, spiked leaves. First class certificate for Skimmia Japonica vera, shown by Mr. Standish, of Bagshot; also for Paudanus elegantissimum, shown by Mr. Bull. Commendation for Camellia Napoleon III., from Messrs. J. and C. Lee. Special certificate for Azalea, Flag of Truce, shown by Messrs. F. and A. Smith. This is appropriately named, as it

presents an unbroken surface of large, beautifully white blossoms.

Messrs. CUTBUSH AND SONS' EXHIBITION OF SPRING FLOWERS.—During the last few weeks Messrs. Cutbush and Sons' establishment at Highgate has been besieged by the great numbers of visitors who were anxious to obtain a view of their excellent display of flowers. Great public shows at Kensington, Regent's Park, Crystal Palace, and elsewhere, have their several merits; they dazzle the senses, and quicken that sense of enjoyment which is peculiar to sight-seeing where there are great crowds. But in a well got up nursery show there is enjoyment of another sort; if we see less as to quantity, we see with much greater advantage for the improving of our notions and for putting to the proof the respective claims of varieties and modes of culture. Messrs. Cutbush manage, very happily, to combine the elegancies of drawing-room entertainment with a real lesson of inestimable value to the practicals, for they illustrate the best styles of grouping as well as of growing the flowers, and every year bring forward some novelties which have, at least, this value, that nobody else possesses them. The hyacinth house was for a fortnight, as bright as the Alhambra, and the colours of the pyramids of bloom as skilfully har-

monized for general effect, as in the best works of the best days of arabesque. The roof of the house was clouded with the thinnest of tiffany, the front lights were quite darkened with green baize, and the floor comfortably matted, so that there was not a shadow of the commonplace to mar the exquisite picture produced by myriads of the best spring flowers. At the extreme end was a stage of amaryllis, unequalled for rarity, quality, and growth in the three kingdoms. On the flat trellis, next the side-lights, were staged the hyacinths, neatly tallied, the pots dressed with green moss, and the perfume of the flowers putting it quite out of our minds that the east winds were piping, and that as yet there was not a leaf to be seen upon the trees. A great stage running up on the other side of the roof, was systematically furnished with plants in bloom. The front line consisting of double primroses, the next of mignonette, then fairy roses in full bloom, then a row all round of Cyclamen persicum, smothered with their lovely blooms, and five tiers to follow of tulips, cythus, azaleas, camellias, and acacias, all packed so close that the pots were invisible, and the mass formed a rich bank of foliage and flowers. Visitors will still find plenty worth seeing at Highgate Nursery.

ANTENNARIA MARGARITACEA.

By this time my stock of *Antennaria* has gone to as many distant parts as the seed of the blue heartsease, and I hope it will be found as useful as that very common but very beautiful plant for ribbon lines and masses. The mention of the blue heartsease reminds me that a few correspondents have asked about the best way to manage it, and so having disposed of the *Antennaria*, the other must have a few words. *Antennaria margaritacea* is neither a new nor a rare plant. It is in fact a British weed, the value of which for garden decoration is derived from the silvery character of its foliage. Like

Cerastium tomentosum, it depends entirely on how it is used, whether it makes a good effect or no effect at all. To do it justice it will suffice to say that it makes a denser line of glittering silver than even *Cineraria maritima*, but for that purpose it must be planted thick, and be nipped back all the season to prevent it rising above the height needful for its place in a bed or ribbon. To use it, therefore, there must be as much skill as with a bedder of any other kind; in fact, the training and the nipping are the processes which determine more than aught else the perfection of masses of all kinds.

But to keep or to propagate this plant requires no skill at all, so for people who can get nothing to grow—we do occasionally hear of such—this is a treasure of priceless value. Any soil and any position will suit it. A sunny position and a sandy loam suit it best of any, and it makes a good second, third, or fourth row, for it grows if left to itself to a height from two to three feet, and therefore can be kept to any less height than that by the constant use of finger and thumb. As many of the correspondents who have received small parcels of the plant wish to know how to increase it rapidly, I will endeavour to sketch out a process in a few words. Whatever has been done with them no matter; if they are in the border take them up and pot them in five-inch pots, using sandy loam, plenty of drainage, and cramming as many roots into the pot as it will hold. If there is only one potful the diligent cultivator may soon make a thousand plants. Place the pot in a warm greenhouse, and keep it shaded for a week, sprinkle the tops frequently, and keep the roots moderately moist. As soon as the growing shoots are pushing freely, place the pot in the full sun. When the shoots are two inches long cut them off close to the soil, remove the lower leaves so as to leave an inch of stem clear. Dibble these cuttings into a pan half full of leaf-mould, and filled up over that with sand. Sprinkle and cover with a bell-glass. Place this pan anywhere in a heat of 60°, and the cuttings will be rooted in a fortnight, by which time having given air by tilting the glass, and at last removed the glass altogether, the cuttings will be firm and growing freely. Observe here that though this plant grows well, it makes very few and very poor roots, and it is not advisable to disturb those roots, and besides the potting-off is simply a waste of labour. But we have now come, say, to the third week in April. Now cut off the tops of all the rooted cuttings within one or two joints of the soil in the pans, and do the same with the shoots that have risen from the original roots in the pot. This

time you will be able to fill two pans with cuttings, and the process just described is to be repeated. A close frame without bottom-heat will do now to insure quick rooting, but if there is a dung-bed at work, or room anywhere over a tank, let these have bottom-heat; there is nothing like it when stock is needed in a hurry. When the plants in the first cutting-pan have begun to shoot again, place the pan out of doors on a bed of coal ashes, or in a frame without any protecting light, and give it enough water to keep the plants alive, and take no further notice of it. But when the old plants in the pot have started shake them out, and cut the roots into as many separate pieces as possible, reserving as much fibre as possible to each. Pot these in thumb pots in sandy loam, and shut them up in a frame for a week, giving them of course a sprinkle daily. At the end of a week give air freely, and in another week set them out also. Now you will have the last lot of cuttings rooted, and these may be strengthened by giving air freely, and their destination must be out of doors with the others.

By this time all the world—that is in this latitude—will be busy bedding-out. You may now safely determine on a line of *Antennaria* as many feet long as you have plants. Suppose you have but 100. Then if you wish for a substantial line of 100 feet long you can have it. This is the way to go to work. As soon as the ground is marked out, plant one row a foot apart. Plant firm, water well, and shade. If pots are plentiful put an empty pot over every plant for a week. It will stand still for a fortnight, and then begin to grow. As soon as the shoots are four inches high, cut them all back to two inches, and dibble in all the cuttings between those already planted; this will make the whole six inches apart. Put pots over these for a week, and then remove them. From that time forward nip back as often as possible, and dibble in all the cuttings in the ribbon, they will all root, and as by this time empty pots will be a nuisance, choose showery weather for

the work, and there will be no losses. By the time the geraniums, verbenas, and other flowering bedders are in full bloom, the *Antennaria* will be thick and silvery, and will continue so till frost cuts it down. It may remain in the ground all the winter, and the next season will come on early and strong. As a single line of 100 feet will be very thin, the possessor of 100 plants to begin with ought to be content with a row of fifty feet. A line less than a foot wide we consider weak. In a really good ribbon the third or fourth row ought to be at least fifteen inches wide, and better if eighteen inches. To do this on the dibbling system the lateral spreading of the plants must be made the most of. As this does not spread much, but is of upright growth and has small leaves, the planting should be within three inches of the boundary each way. Suppose we mark out the line a foot wide, thus—

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To fill this quickly plant along the centre, and again three inches distant from the centre each way,

and then as cuttings come to hand plant in the same lines to thicken the mass, and the side-growths will quite fill the twelve feet width. A circle of fifty feet for a third row in a bed would require a very large bed, larger in fact than most people would care to be troubled with; so everybody who has received a packet may use it for one composite bed with very little trouble.

Those who do not care to make cuttings, and who are content to wait till next season for a stock of the plant, are advised to leave their roots where they are, whether in the ground or in pots, till the end of this month, then let them be taken up in showery weather and divided, and planted separately in the borders or reserve ground, and there let them grow as they please, and leave them alone. In March next year take up and divide again, and so on till there is enough to turn it to account for bedding purposes.

This is a long story to tell about a plant of such humble pretensions, but whoever chooses to take it in hand and follow the advice here given, will gain practical experience of some value, and which may be put to other purposes in time to come.

S. H.

ADVERSARIA.

SPRING FLOWERS.—The FLORAL WORLD has always advocated the plentiful culture of plants suited to keep up the gaiety of the garden, from the first day of spring sunshine till the rains and frosts of autumn make rambling more of a pain than a pleasure; and then we have always said there ought to be something worth seeing from the windows in beds of conifers, hollies, rhododendrons, and other shrubs with variegated leaves or scarlet berries. Now, how does the case stand with our readers? Have they plants of *Aubrietias*, double daisies, yellow and white *Alyssums*, and that prettiest of all the spring flowers, the ever-green *Iberis*? But there is no need even to be without flowers in the

open ground any day the whole year through. The winter aconite, *Eranthis hyemalis*, has often been recommended in these pages, but I never saw how splendid an effect it produces when grown on a large scale till February last, when, on visiting Messrs. Frazer's nursery, Lea-bridge Road, I found myself on the Field of the Cloth of Gold, for the aconites literally carpeted the beds with their pale yellow blossoms, and the sunshine gave them two additional shades of yellow, so that they glowed almost as brightly as *calceolarias*, and the blossoms lay flat on the soil and had the help of its dark contrast. The Christmas Rose, *Helleborus niger*, was blooming at the same time in the greatest profusion, though

planted in the full sun, which is not so good for it as the shade. This is just the time for people who wish for flowers next winter to obtain stock of this bellebore, and also to part the plants they have. The cut will show the form of the root and how easy it is to pass a knife through it in several places, so as to separate pieces with buds and fibres, which have all to be planted in a shady place in sandy loam and left to take care of themselves. Now, also, the



HELLEBORUS NIGER.

enthusiastic gardener should provide himself with stock of the showiest of the fancy pansies; Beaton's "Good gracious," Trentham Blue, and Magpie to be of the number. These all bloom on strong stools left out all winter, just at that critical season when the bedders are bloomless and the ordinary run of spring flowers are over. Double primroses and hepaticas should be grown in plenty; all they want is a fat loam and to be divided as soon as out of bloom, and may be moved about to decorate the borders when wanted and to grow strong again in the reserve ground for the next season.

FOLIAGE BEDDERS.—Last year's experiences proved that *Coleus Verschaffelti* may be used as a bedder with the greatest certainty of success.

There is no other way for people who are not so deep in gardening as to be ready at any moment to turn traders, and compete with the nurserymen, to get up a stock of this glorious plant than to buy a few now and put them in a stove or warm greenhouse, and make cuttings of the tops and side-shoots. We see that Messrs. Carter advertise them at from six to twelve shillings a dozen, so there is no longer the objection of dearness to its plentiful use, and any one handy at propagating could get up a stock of a thousand from a few to begin with. They strike in a dung heat of 70° in ten days, and anybody can manage them after that, remembering that they like warmth, a rich soil, and plenty of water. The new *Amaranthus melancholicus* can be got up in any quantity by sowing seed now and treating it just the same as love-lies-bleeding. This also can be topped and struck wholesale, but it must never be starved, or it will run into bloom, and then it ceases to grow freely. Perillas and purple Orachs our readers know all about from past advices. *Chenopodium atriplicis*, which we have so often recommended for its exquisite carmine colouring, will not work in with any of the foregoing, that is, not to satisfy our eye. It must be used by itself, and makes a fine bed either nipped back or allowed to run into flower. A band of golden mint round it is about the best edging it can have. We have had from Barr and Sugden, with other novelties, seed of *Urtica nivea*, which produces a fine silvery foliage. This grows three feet high, and will tell for the centres of beds where foliage forms predominate, and will be especially valuable where a nondescript bed of *Ricinus*, *Canna*, and other large-leaved plants are to be grouped. But a still better centre will be *Helianthus argophyllus striatiflorus* fl. pl., which we have had from the same house. But it must be a large bed for such a plant as this, and one a little out of the way of the geometric garden, as in a niche of the woodland walks and shrubberies, for it grows four feet high and makes a

fine silvery foliage and huge yellow flowers. I must name one more favourite in this category, and that is *Bellis perennis aenubifolia*, that is, the variegated-leaved daisy, of which I have now a fine stock fit for a front line, and there is not a lovelier plant in any garden. You may part and plant, part and plant, at any time, but best in autumn, and, if the soil is poor, every leaf will come true, a rich gold ground colour netted all over with green veins.

NEW BEDDERS.—The lead among the novelties this season will be taken by *Lobelia speciosa Paxtoniana*, which made such a figure last year at the Crystal Palace. This is marked with pale blue on a creamy-white ground, and has extra large flowers. When well done, it is most brilliant, and makes a fine bluish-gray edging to any bed of strong colours. The next most popular novelty will be Carter's rosy purple *Lobelia speciosa Kermesina*, which is a tremendous bloomer, and of the best habit for growth of any *Lobelia* yet introduced to our gardens. Neither of these are to be had from seeds, and, being seminal varieties, might never come true from seed again, but that remains to be seen. But who will do justice to the species and varieties of *Arctotis*? Here certainly is a new and untried material for front lines of silver and gay flowers combined; just the thing we have been wanting all through this progress in bedding and edging and composite colouring. Let our readers be up to the mark in time, and plant out at the end of May in a reserve plot all the kinds of *Arctotis* that can be got, and in June sow as many as can be had from seeds, and make a fair trial of them with a view to future propagation.

BEDDING ANNUALS.—I found it quite a mistake last year to do without my masses of crimson and purple candytuft, and so have sown largely of seed from Carter, Barr and Sugden, and E. G. Henderson, expecting, of course, that all the varieties bearing the same name from each house, will be the same when in flower. I shall get an early bloom by getting them

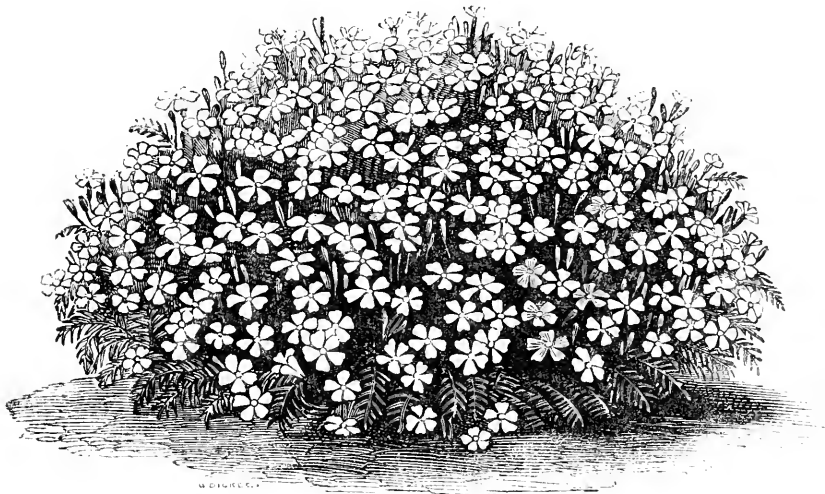
forward in pans, then pushed out into boxes, and, finally, planted singly four inches apart, and that will be very close for such plants as mine are in the generous way I treat them. Then the moment their glory begins to wane away they will all go to the muck pit and be succeeded by balsams, asters, *acroclinium*, and I hope some good masses of the new and beautiful *Rhodanthe maculata*, the best of all the everlastings, and worth as good culture as can be bestowed upon it. But there is no end of good annuals for a constant succession to the very end of the season, and to keep the garden gay by such means will be good practice—better in most cases than with the ordinary round of bedders, because there must be successive sowings, prickings out, planting, destroying, and so forth, so that those who go in this track will never lack work. Four years ago the **FLORAL WORLD** recommended a dwarf form of *Marigold*, which was much used at Kew. There were yellow, sulphur, brown, and crimson varieties; but their general fault was a tendency to run up too high. Now this is overcome, and we have a race that may be relied upon to keep dwarf to the end, and to make myriads of blooms in a sunny position. This is *Tagetes signata pumila*, for a picture of which we are indebted to Messrs. Henderson and Son, of St. John's Wood.

What shall we say of *Portulaccas*, or *Schizanthuses*, or *Clintonia pulchella*, or *Dianthus Heddewegii*, or *Eucharidium grandiflorum*, or the new double blue *Jacoea*, which comes true from seed; or the Tom Thumb *nasturtiums*, which are sent out now in half a dozen distinct varieties—creamy white, orange scarlet, yellow, crimson, etc.—except that they offer cheap materials for gorgeous colouring to people who cannot keep large stocks of geraniums and verbenas, and who cannot afford to buy all they want to fill their capacious beds, and who, therefore, must bear with dinginess, unless they take to annuals in earnest or go back to the good old style of *Lupins*, Sweet *Williams*, herbaceous *Veronicas*, and

Delphiniums and Sunflowers—all such good things in their way, that the pity is that some people neglect them in order to make more beds than they can fill properly or plant with skill.

— **BLUE HEARTSEASE.**—Those who wish to use this for a front line should have sown a month ago. But supposing that was not done, sow now in

till they are pot bound, then plant out four inches apart, and leave them to take care of themselves. They will soon be one mass of bloom. If any show yellow blossoms root them out and destroy them, and fill up the gaps with reserve plants. When they get inconveniently tall, cut them back close to the ground, and they will



TAGETES SIGNATA PUMILA.

pans and place in a frame or greenhouse. As soon as large enough to handle prick out in other pans or boxes in rich light soil, and keep under glass till the plants are tufty, then put them in thumb pots, and be careful to pot firm. Shut up for a week, then place them out of doors

start directly and bloom again. When you are going away from home for a fortnight is the time to cut down any ribbon-lines that have grown out of bounds. You thus escape seeing them at their worst, and by the time you return "Richard is himself again."

SHIBLEY HIBBERD.

LAPAGERIA ROSEA.

A. F. writes as follows:—"Will you please be good enough to inform me in your *FLORAL WORLD* next month, if possible, how I am to treat my *Lapageria rosea*? I had a seedling about a year ago, and it is scarcely any bigger now than it was then, and locks very spindly. I have now put it in a forcing pit. Will this be too hot for it? I use the pit for cucumbers, etc."

We have received more letters on the subject of this *Lapageria* than

upon any other plant during the whole course of our experience. This proves that the best of climbers is appreciated for its beauty, and, at the same time, that the proper method of its culture is as yet but little understood.

Our correspondent A. F. is not the only cultivator who has seen this plant die by inches; there have been thousands sold, of which there are not hundreds living, and not dozens in a flourishing and flowering state. How

is it? The reply is of a very definite kind, and it is this: *Lapagerias* from cuttings never live; *Lapagerias* from layers cannot always be depended on; but *Lapagerias* from seed are as sure to grow as *Virginian* creepers, give them but the proper soil and suitable conditions. This brings us to the second point. In a pot, *Lapageria* is like an eagle caged: it must pine and die—its doom is upon it. A. F. will soon kill his plant by keeping it in a pot in a cucumber bed; the sooner it is removed from that stewpan the better. The only way to be safe is to plant it out in a capacious bed of peat raised above the level. If we could choose all our conditions, we would train the plant up a back wall with a west aspect, in a roomy airy house heated by hot water—just enough to keep frost out. The bed should go right across the house, and be of any length, from ten to twenty feet or more. It should be three feet wide, two feet deep, and be kept up with a brick wall in front. In any case, the plant ought to have a depth of eighteen inches of peat, and a surface of border equal to twelve square feet, which will allow for six feet of length and two feet of width, and in less than that bulk of earth we should not expect to make much of it.

Supposing the bed to be two feet deep, there may be six inches of hard rubble at the bottom, and the rest filled up with peat of a gritty nature—such is that from Wimbledon or Shirley; but a greasy peat of a strong character would require a fifth part of its bulk of small pebbles added, say clean shingle of the size of hazel-nuts and less. Now with this bed there is another help wanted, and that is a *run of water*. At one end of the bed there should be a supply pipe with a tap, and at the other end an outlet, which may also be a pipe

and tap, or a drain to carry the water away under the floor of the house. All the summer long the supply pipe should dribble, to keep the bed soddened with water—say from May to the end of July; the outlet must be kept open to prevent overflow, and to relieve the soddened state of the soil. Merely soaking the bed with a water-can every day will not do near so well, but it will be the best substitute for a run of water where the latter is not possible or convenient. As to temperature, the plant requires much the same treatment as a *Cape heath*—to be kept airy at all times, protected from frost, but to taste as little artificial heat as possible. Of course, if it is not possible to have a run of water, there must be plenty of water supplied by hand labour, or by a hose. The “*hydropult*” comes in admirably for such work as this if there is a cistern near at hand to draw from.

It need scarcely be remarked that the front of the bed may be used as a stage for pot plants, provided they are stood on empty pots inverted, both to keep the plants from rooting through into the damp peat, and to prevent the peat getting pasty and sour, which it is sure to do if the atmosphere is excluded by covering the bed with pots. But the best way to treat the surface will be to plant it all over with two-inch lengths of *Lycopodium denticulatum*, six inches apart; these will meet, and form a dense carpeting of most delightful verdure, and do no harm to the roots of the *Lapageria*. As to training and pruning, we apprehend the cultivators of this beautiful climber will find no difficulty. If any of our readers who have grown this climber successfully have any hints to offer either in modification or amplification of our views, we shall be very glad to hear from them.

A NEW METHOD OF TRAINING PLANTS TO A WALL.

THE season of crushed fingers and cracked knuckles in nailing cut trees is anything but a delectable period to look forward to, whether the gar-

dener be professional or amateur, so that, perhaps, the method I adopt to reduce the disagreeables of the job to a minimum may not be unaccept-

able to the readers of the *FLORAL WORLD*. My field of operations is confined to a few yards of fence, on which I cultivate a few choice climbing roses; nevertheless, the plan is capable of the most extensive application.

Having fixed upon suitable positions, by bringing the branches of the plant to be trained against the wall or fence, I drive in tenter hooks accordingly, their size being regulated by the substance of the branches. I next take some vulcanized India-rubber bands (those about the diameter of a shilling are the best), and

placing one round the branch, loop it back to the tenter hook. This is not only much neater and cleaner than the usual nail and shred, but is much more quickly executed; and when the tree wants unnauling, it is done in a moment, and the bands, being taken care of in a dry place, and being, moreover, waterproof, will last for several seasons. I generally choose them pretty stout. Their cost is about 1s. per 100. Many other advantages attending this method of training might be pointed out, but space is valuable, and *verbum sap.*, etc.

Homerton. W. D. PRIOR.

APRIL, 1863—30 DAYS.

PHASES OF THE MOON.—Full, 4th, 4h. 9m. morn.; Last Quarter, 11th, 1h. 23m. morn.; New, 18th, 3h. 5m. morn.; First Quarter, 26th, 4h. 8m. morn.

D M	Sun		Moon rises.	Moon sets.	Weather near London, 1862.						Rain	THE COUNTRY. The Garden and the Field.
	rises.	sets.			BAROMETER.		THERMOMETER.					
					Mx.	Min.	Mx.	Mn.	Me.			
	h.	m.	Aft.	Morn.								
1	5	38	6 30	3 50	4 5	29.84...	29.77	58...	48...	53.0	.02	Ground ivy fl.
2	5	36	6 32	5 2	4 25	29.64...	29.50	57...	56...	56.5	.21	Holly fl.
3	5	34	6 33	6 17	4 45	29.79...	29.53	63...	35...	49.0	.00	Larch fl.
4	5	32	6 35	7 35	5 8	30.04...	29.98	60...	38...	49.0	.00	Crown imperial fl.
5	5	29	6 37	8 52	5 33	30.05...	29.88	55...	47...	51.5	.04	Box fl.
6	5	27	6 38	10 6	6 5	29.94...	29.86	56...	46...	51.0	.12	Blackthorn fl.
7	5	25	6 40	11 20	6 44	30.18...	30.09	53...	42...	47.5	.01	Common laurel fl.
8	5	23	6 41	Morn.	7 32	30.23...	30.09	48...	38...	43.0	.69	Oxlip fl.
9	5	20	6 43	0 23	8 33	30.05...	29.93	51...	39...	45.0	.73	Sycamore fl.
10	5	18	6 45	1 13	9 43	30.00...	29.90	56...	39...	42.5	.00	Pear fl.
11	5	16	6 46	1 54	10 59	30.17...	30.08	45...	27...	36.0	.00	Lime foliates
12	5	14	6 48	2 28	After.	30.25...	30.14	46...	21...	33.5	.00	Dog violet.
13	5	12	6 50	2 55	1 36	30.14...	29.85	46...	20...	33.0	.00	Whitlow grass fl.
14	5	9	6 52	3 19	2 55	30.18...	29.87	48...	25...	36.5	.00	Cherry fl.
15	5	7	6 53	3 40	4 10	30.09...	29.90	50...	20...	35.0	.00	Lady's-smock fl.
16	5	5	6 55	4 1	5 25	30.14...	29.82	52...	42...	47.0	.02	Red-rattle fl.
17	5	3	6 57	4 24	6 38	29.82...	29.79	59...	35...	47.0	.00	Golden saxifrage fl.
18	5	1	6 58	4 49	7 51	29.87...	29.78	57...	45...	51.0	.01	Plum fl.
19	4	59	7 0	5 16	8 58	29.81...	29.79	59...	48...	53.5	.00	Fumitory fl.
20	4	57	7 2	5 50	10 1	29.95...	29.92	61...	38...	49.5	.00	Apple fl.
21	4	54	7 3	6 30	10 57	29.95...	29.95	64...	37...	50.5	.00	Hawthorn fl.
22	4	52	7 5	7 17	11 44	29.73...	29.54	60...	42...	51.0	.11	Hornbeam fl.
23	4	50	7 6	8 10	Morn.	29.85...	29.63	61...	39...	50.0	.01	Beech foliates
24	4	48	7 8	9 10	0 24	29.99...	29.86	69...	37...	53.0	.05	Butter-burr fl.
25	4	46	7 10	10 12	0 56	29.86...	29.83	76...	43...	59.5	.12	Harebell fl.
26	4	44	7 11	11 17	1 22	29.87...	29.85	67...	35...	51.0	.04	Strawberry fl.
27	4	42	7 13	After.	1 46	30.03...	30.01	70...	31...	50.5	.00	Sauce alone fl.
28	4	40	7 15	1 32	2 7	30.12...	30.02	74...	32...	53.0	.00	Ash foliates, Beech fl.
29	4	38	7 16	2 43	2 27	30.25...	30.03	69...	34...	51.5	.00	Crab fl.
30	4	36	7 18	3 54	2 47	30.08...	29.92	74...	43...	58.5	.03	Lilac fl.

PAPYRUS ANTIQUORUM.

SINCE the article on Papyrus antiquorum was written, one of the last new books of travel has fallen into the hands of the writer, and he finds that boats made of bundles of reeds are still in use in Peru and Bolivia. This primitive kind of boat is called a "Balsa." At page 107 of "Markham's Travels in Peru and India" will be found a woodcut, which will give a very good idea of the manner in which these boats are constructed. They are bound together in bundles, and

then fastened longitudinally, so that a boat capable of carrying some four or five persons is thus formed. The sail is made of reeds fastened together in small parallel bundles in the same way. These boats are commonly used in Lake Titicaca and in the rivers of Peru. M. de Castelnau says that these boats exactly resemble those represented on the tomb of Rameses III. at Thebes. This is another of those curious links connecting the new world with the old.

VARIEGATED COLTSFOOT (*Tussilago farfara* var.)

THIS is a superb plant for people who have but small means of preserving variegated bedders. The leaf is blotched with a yellowish cream colour, with a very small proportion of green. The variety shows no tendency to sport back to its ori-

ginal colour; but a chalky or peaty soil will be most likely to keep it true. It spreads rapidly, and may be divided every season for increase; and for a front line or for a solid bed it is exquisitely beautiful.

THE GARDEN GUIDE FOR APRIL.

THE month of April is one which generally tests severely the cultural capabilities of the gardener, as well as his ways and means. The weather may be summer one day, and winter the next; and inexperienced hands may easily be led astray by the temptations of warm showers and sunshine, to regret, afterwards, the havoc caused by sudden frosts, storms, and even snow and hail. In the general work of the garden, many of the directions—especially as to sowing—given last month, apply to this, and more particularly to those who live in exposed districts. We write for a London climate, and our directions are based on the general practice of gardening in and about Middlesex, Surrey, and Hertfordshire. Those who live far south, in the almost Italian climate of Devonshire, will often have things up at the time we are instructing them to sow; while residents on the bleak Northumberland coast, or in the eastern parts of Scotland, will always be a fortnight, sometimes a month, behind us.

KITCHEN GARDEN.—Successional sowings may be made of all leading kitchen crops, and where the work of the last month has been delayed, seeds got in early

will not be much behind those sown last month. Sow Windsor, longpod, and Johnson's wonderful Beans; marrow, Auvergne, and dwarf mammoth Peas, and a few rows of the earliest sorts, to come in before the late peas are ready. In small gardens the dwarf kinds are always to be preferred. Sowings should also be made of horn Carrot, Savoy, Brussels' sprouts, Scotch kale, Broccoli, Cauliflowers, and Cabbages, for autumn use; a succession of such things being preferable to a glut all at once for the private grower. Among cabbages, Atkins's Matchless, Shilling's Queen, early York, and West Ham, are good sorts to sow now, but the main crop of cabbages should be up by this time, and must be hoed between when the ground is in a fit state. Beet should be sown in the second week in ground deeply dug, but not manured; the main crop of Celery should be sown on a rich warm border, the surface to be made light and fine; sow thin, and merely dust the seed over. Sow also Onions, Lettuce, Radish, Small Salad, Sea-kale, and Asparagus; the two last in drills, one foot apart, and one inch deep for asparagus, and two inches for sea-kale. Another mode of raising sea-kale plants is to sow in four-foot beds,

the seed to be in patches of eight inches diameter, and two feet apart, and about eight seeds in each, the plants to be thinned to three plants in each patch; the ground should be rich, well drained, and deep. Beds may also be formed now by planting roots, but the best plantations are those raised on the spot from seeds. Those who purpose raising seedling rhubarb plants should sow about the middle of the month in shallow drills, eighteen inches apart, dropping the seeds in patches, six inches from each other. Potatoes not yet planted should be got in without delay, and towards the end of the month scarlet runners and French beans may be sown; the runners should have a warm dry position until the first of May, when they may be sown in almost any soil or situation without risk; but, like most other things, yield the best crops on ground well dug and manured. The main crop of carrots should be got in about the fifteenth of the month, and there is still time for a crop of parsnips, but they must be sown directly. Slips of kitchen herbs may be put in any time this month, and will root quicker if planted in a rather dry sandy border.

FLOWER GARDEN.—Seeds of hardy annuals and perennials are to be sown early, and towards the end of the month the more tender kinds may be safely committed to the ground: but very small seeds of choice things had better not be sown till next month, as heavy rains may wash them down into the soil, and they may be lost. Perennials may be planted out, and old stools of phlox, chrysanthemum, sweet William, etc., may be parted. Dahlia roots may also be planted, and if the shoots appear before night-frosts are over, they may be protected by flower-pots inverted over them, and the holes stopped with pieces of tile. Where early beds of dahlias are required, this plan may be adopted in the putting out of young plants, and if well hardened first, the beds may be filled about the middle of the month, and inverted pots, litter, or netting, used to protect them during fits of cold wind or frost. Box edgings should be clipped, and ivy may be cut in and trimmed, and fresh plantations made of last year's roots. Cuttings of ivy may also be taken and planted in a sandy border, only partially exposed to the sun. The cuttings should be short-jointed, and trimmed of the lower leaves. Tigrida bulbs may be planted two inches deep. A light netting, or some similar protection will be found useful now as a protection to tulip beds, and if the foliage gets

frozen, water them with cold water before the sun gets on them. Walks should be turned and rolled, and grass plots dressed, so as to give an air of neatness and order to the whole of the ground.

GREENHOUSE AND PIT.—If bedding-stock is still in request, cuttings should be struck in a brisk heat, even as high as 90°; they will bear much more heat now than they would a month ago. China roses may be propagated in pots by taking off young shoots close to the old wood when four inches long, and plunging in a moderate heat. General collections should only have a moderate heat, and a strong healthy growth should be promoted by giving plenty of air, with a view to putting out the fires for the season. Many specimen-plants will want liberal shifts, and all subjects not immediately required in flower should be regularly and frequently stopped to induce bushy growth and form good heads. Water and liquid manure must be more freely given, and vigilant efforts must be made to keep down green-fly and thrips. Many of the less tender things may be removed to cold pits, to increase the room for other things that want continued protection to make fine plants. Young stuff from the propagating house should be potted as fast as rooted, and kept close till started afresh, and then be gradually inured to air and light, so as to be strong by the middle of May. All tropical plants required for summer blooming in the house should be got on without delay, and a quick growth promoted so as to allow them as long a season as possible for blooming, and ripening their buds for next season. Average temperature this month 55° by night, 60° to 65° by day. Where desirable, the house may be shut up with sun-heat to render fire unnecessary.

STOVE.—Vines in bloom must be kept close, and with a little extra fire-heat to prevent injury from damp setting on the berries; melons should be encouraged to make quick growth until established, and then kept cooler to encourage the production of fruitful wood; but do not stop the main shoots till they have extended as far as the space allowed them, and then they may be stopped to promote the growth of laterals. Pines will want shade on bright days, and air as often as possible, but the atmosphere about them must be kept moist, and the roots well soaked whenever the soil about them is dry. Red spider will now be getting active, and must be kept down. Keep also a good look-out for green-fly, especially among young stock. Average temperature for pines,

70° at night, 80° by day ; for general collections, 65° by night, 75° by day.

Annuals of all kinds may be sown now in the open air ; the hardy sorts will be up in from ten days to three weeks, the tender kinds in a month or six weeks. It is often a convenience to sow all kinds at once, in accordance with a general plan, and it may be done in April. Of course, asters, balsams, etc., rarely come to much good by this off-hand method.

Auriculas to be shaded as the bloom progresses, and have shelter at night by means of mats. Give plenty of water and plenty of air. Thin the pips in good time to the standard number, whatever that may be. There seems to be a tendency to a general concurrence of growers in favour of *five* pips for exhibition trusses ; that is the number required by several of the leading schedules this season. It is certainly a more reasonable arrangement than *three*, which was the rule at the Royal Botanic last year.

Beans to be dressed with soot or wood ashes, and hoed up quite to the lowest leaves. Sow for succession, they like a rich, retentive soil.

Bedding Plants to be got into cold frames, if quite bushy, and fit for summer work. Young stock to be kept growing, and seedlings to be potted off either singly or in little groups, as soon as large enough to handle. Geraniums, calceolarias, etc., removed to pits, should be plunged either in spent tan or coal-ashes, which will keep their roots warm and moist, and obviate frequent watering.

Cabbage and Cauliflower.—Sow the dwarf sorts of cabbage to follow peas, and fill up anywhere as plots become vacant. Continue planting cauliflowers from frames, but give them the shelter of mats if the nights are frosty. They must have rich soil, be frequently hoed up, and watered in dry weather.

Chrysanthemums for general purposes to be now propagated. Suckers are as good as cuttings ; and there need be no disputes about their relative values. They do not require much heat to start them, and nothing better than a gentle hot-bed on the old-fashioned plan. In the Wal-tonian they are sure to mildew if kept very damp and close, so give air and rather dry heat. Old stools may be planted out in the borders.

Cucumbers.—Sow for ridging out, and get the plants forward in pots. They turn out better when singly, in sixty or forty-eight pots ; they should have no check. Shift those already forward. Splash water about the beds of fruiting plants,

and close early, so as to give the plants a good steaming, which they will enjoy.

Hollyhcks planted now from store pots will bloom to perfection, and have no check from frost. Put a couple of spadefuls of rotten dung in each hole, plant firm, tally and stake at once ; cover each plant with an inverted flower-pot for a week, and then remove it. Give plenty of water and liquid manure as required.

Hyacinths must have abundance of water while in bloom, and for some time after ; as long, indeed, as the foliage continues green and growing. After it begins to get discoloured, dry them off gradually, and lay the pots on their sides, where they will have morning and evening sun to ripen the bulbs. For management to keep the bulbs for further use, see last year's volume, p. 72.

Violets planted now from young runners of Russian and the double flowering kinds will make fine plants. For their management, see vol. iii. p. 110, and vol. iv. p. 56. Seedling plants generally bloom most profusely, and in most of the seed catalogues the best kinds are entered.

Wall Trees must have protection from the cutting east winds, and the protection should be of a kind easily removed, so that the trees have free air upon them night and day, weather permitting, and be covered with the least possible trouble if the wind shifts to east or north. It will generally be found that those who exclaim against protecting have been in the habit of shutting the trees up as if they were muffled bells.

Orchard House.—If this is crammed full of all sorts of things in pots, which is too often the case at this time of year, make a general clearance, for this system of making too much of the glass leads to mismanagement, and one common result is keeping the trees too close in order to help more delicate subjects. *Trees must have air* and plenty of it. Let the wind whistle among the bloom and it will set freely. Give plenty of water at the roots of the trees.

Azaleas done flowering must be kept rather close, and in a moist atmosphere to favour a quick growth, as it is important to get the new wood well ripened when the growth is completed. Those that are cramped at the roots must be repotted in good peat and silky loam. Artificial peat is wholly unfit for such plants in pots.

Calceolarias coming into bloom must have plenty of water and free ventilation. Syringe the lower leaves and branches, but wet the blossoms as little as possible.

Camellias done blooming treat the same as advised for azaleas. Those coming into

bloom must have occasional strengthening with liquid manure. Lanky plants will be improved by removing the top buds before they expand, to throw vigour into the lower branches.

Cinerarias are very fine this season, and some good seedlings have made their appearance. It is a good time for beginners to purchase sorts in bloom to propagate for stock. Green-fly will annoy the plants, unless kept down with gentle smokings. Dung, three parts rotten, and mellow hazel-loam should be chopped over and laid up at once for potting the next lot, so as to be sweet and friable when wanted.

Conservatory should now be very gay with bulbs, camellias, and forced deciduous shrubs and trees. Look out at once for the summer supply. Cannas are now fashionable for their fine tropical-looking foliage, and some new varieties of *Ricinus* will be much used to help the foliage effects of *Caladiums*, etc. *Datura Wrightii* is a charming *Convolvulus*-like herbaceous plant for a warm house, and delightfully scented. Sow seed now in a brisk heat. Treat the same as balsam. We have some plants that have flowered five years in succession and have now large fleshy roots. It is therefore a mistake to call it an annual.

Dahlias for show ought now to be strong in 60-pots, and kept growing slowly. Cuttings put in now will make good plants. For large specimens, use old plants, to be started now at the bottom of a vinery or a cool part of a pine-pit.

Dandelion, grown in Pascall's seakale-pots in a gentle dung-heat, forms an elegant and acceptable salad. Strong plants may be forced the same as seakale and asparagus, and must be thoroughly blanched, to prevent bitterness. Any old plants in places about the garden may be blanched where they are by turning a pot over them and stopping the hole with a piece of tile.

Forcing must be continued with lettuce, mint, asparagus, and potatoes. Many of the complaints of failure which reach us are attributable to high night temperatures. All sources of heat that are under full control, such as hot water and flues, admit of being reduced or increased, as required, and the temperature should always fall from five to ten degrees at night in heated structures of all kinds.

Kidney Beans.—Sow a small lot of Newington Wonder or Fulmer's forcing beans on a warm border at once, and in ten days make another sowing. Sow Negro or Speckled Dun the third week, and Runners the last week of the month.

Pelargoniums to be encouraged to grow freely by the use of the syringe and regular tying out. Fumigate as soon as fly appears, or much mischief may ensue. Plants showing for bloom to have weak manure or soot-water at every other watering.

ORCHID HOUSE.—An increase of heat and moisture will now be required for Orchids of all kinds, in both Indian and Mexican houses, but water must not be applied directly to any until growth has fairly commenced. Specimens of *Cattleya*, *Calanthe*, *Phajus*, *Saccolabium*, *Stanliopea*, *Zygopetalum*, *Brassia*, *Dendrobium*, and *Sobralia* will require frequently syringing about their pots and blocks as the plants advance; in fact the cultivator must now encourage luxuriant growth as early as possible, in order to get the bulbs well ripened in the autumn. Shading must be put up, not later than the second week of the month, but a better plan is to have good roller blinds, so as to shade at will, if only for an hour or two, when there is a hot sun with an east wind. Growers of *Anactochilus* usually place them on bottom-heat, and keep very close at this time of year, which is the very opposite of good practice. Bottom-heat causes too quick a growth which results in weakness, and want of ventilation adds to the mischief, and the two evils are frequently combined for the destruction of collections for which large sums of money have been paid. Ordinary stove temperature is all they require. Let the bell-glasses be always slightly tilted up; this will render necessary more frequent watering at the root, which the plants will enjoy from the present time to the end of September. Any not newly repotted this season should be repotted without delay, in a mixture of equal parts of sphagnum, chopped fine, and fibry peat with one-half part of sharp silver sand. In potting, raise the collar a little above the soil, and finish with a sprinkling of washed silver sand on the surface.

Orchids that may be in bloom in April.
—*Arphophyllum giganteum*; *Bletia campanulata*, and *patula*; *Burlingtonia candida* and *fragrans*; *Cattleya amethystoglossa*, *Mossiae*, and *Skinneri*; *Chysis bractescens*; *Coryanthes speciosa*; *Cypripedium caudatum*, *caudatum roseum*, *hirsutissimum*, and *villosum*; *Dendrobium aggregatum majus*, *anosmum*, *Cambridgeanum*, *crepidatum*, *Dalhousianum*, *densiflorum*, *densiflorum album*, *Faernerii*, *fimbriatum*, *fimbriatum oculatum*, *lituiflorum*, *nobile*, *nobile intermedium*, *nobile pendulum*, *Pierardii latifolium*, *primu-*

linum, Epidendrum aurantiacum, bicornutum, crassifolium, Hanburyanum, macrochilum, and macrochilum roseum; Leptotes serrulata; Lycaste cruenta, and Deppi; Odontoglossum Pescatorei;

Oncidium ampliatum majus, sarcodes, sessile, sphacelatum majus; Phajus Wallichii; Saccobium miniatum; Tricopilia suavis; Vanda cristata, and Lowii.

TO CORRESPONDENTS.

A TIFFANY FAILURE.—I fear I am another victim to "Tiffany;" I have lately erected a tiffany house, in full faith in what writers in your periodical have stated as to its powers of resistance to frost, and I have been deceived. I used Shaw's No. 4 (treble strength) tiffany, and on two nights during the recent frosts the thermometer suspended inside the house has registered 4° of frost. I have indeed carefully compared the temperature of the inside with that of the outside, and the result is that I find that tiffany will resist only 2° of frost. This result is so much at variance with what *S.W.* states in *FLORAL WORLD* (Vol. iii. p. 80), that I should be exceedingly obliged to that gentleman if he would let me into his secret. If his experience is correct, tiffany answers fully; but if mine, it is useless for the purpose of protecting from frost. My house is constructed after Mr. Standish's plan, as described in *FLORAL WORLD*, Vol. iii., p. 98.—*Victim.* [This correspondent sends real name and address. We know of about sixty tiffany-houses, and they all give satisfaction; but they are in every case used for subjects that require very little shelter, such as bush fruits, roses, tulips, etc., and it is the protection from sudden changes, bleak winds, sleet, and rain, at this time of year, which is most needed by such plants; a little dry frost does not hurt them. Foreseeing that more would be expected of tiffany than it was capable of performing, we several times warned our readers never to trust soft-wooded greenhouse plants to the protection of tiffany. Reference to Mr. Standish's description will show that he only recommends it for hardy trees and shrubs which it is desirable to shelter during early spring, when a very slight shelter, say to keep out 2° of frost, may make all the difference between a good crop of fruit and no crop at all. The bare measurement of difference in degrees of temperature is not a sufficient evidence of the value of tiffany, of which we ourselves have as high an opinion as

ever. But people expect too much of it.]

CATALOGUES RECEIVED.—"W. T. Gidney, East Dereham, Norfolk, Catalogue of Horticultural Tools and Implements." A full illustrated and descriptive list of many useful tools, embracing every requisite for the garden and greenhouse.—"J. R. Bates, North Street, Brighton, Catalogue of Flower Seeds." A very useful selection, printed on a large sheet, which is of a size not suitable for preservation.—"Francis and Arthur Dickson, and Sons, Upton Nurseries, and 106, Eastgate Street, Chester, Catalogue of Vegetable and Flower Seeds." A very excellent selection of seeds, and has also a good variety of ornamental pottery, garden implements, etc.—"A. Stansfield and Sons, Vale Nurseries, Todmorden, Catalogue of Stove, Greenhouse, Hardy Exotic, and British Ferns." Embraces all the good known sorts, besides a number of novelties with excellent descriptions.—"William Bull, King's Road, Chelsea, List of New, Beautiful, and Rare Plants for 1863." A short summary of the novelties Mr. Bull is prepared to send out this season, consisting chiefly of florists' flowers and bedding plants. "T. Green, Smithfield Works, Leeds, and at 2, Victoria Street, Holborn Hill, Prospectus of Patent Garden Rollers and Silent Mowing Machines." Mr. Green still keeps the leading place so ably won.—"John Morse, Nurseries, Dursley, Gloucestershire, Catalogue of Cuttings for Spring, 1863." Mr. Morse supplies cuttings, grafts, leaves, etc., through the post, at a cheap rate, to enable amateurs to stock their gardens and greenhouses at a great saving on the cost of plants, and give them amusing practice at the same time.—"W. H. Treen, Victoria Nursery, Rugby, Lists of Verbenas and Fuchsias," which include all the newest of each, and are all carefully described. It is a most valuable list, and very seasonable.—"William Dean, Bradford Nursery, Shipley, Yorkshire, Catalogue of English and Fancy Pansies." A copious

list of the very best varieties, both new and old, embracing a wide variety of colours and fantastic markings.—“John Salter, F.R.H.S., William Street, Hammersmith Turnpike, near London, Descriptive Catalogue of English and Foreign Novelties.” A closely-printed catalogue of thirty-five pages, containing an immense number of varieties of chrysanthemums, dahlias, peonies, phlox, fuchsias, iris, hardy variegated plants, etc.—“Alexander Shanks and Son, Dens Iron Works, Arbroath, and 27, Leadenhall Street, E.C., Prospectus of Patent Lawn Mowers.” The machines produced by Messrs. Shanks and Son are noted the whole world over for their substantial qualities and extreme simplicity of construction.—“Wheeler and Sons, Gloucester, Little Book, or Select Seed List.” A small quarto of fifty pages, with descriptive notes of every kind of grass in cultivation, and some useful remarks upon the diseases of turnips.—“Sutton and Sons, Royal Berkshire Seed Establishment, Reading, Farm Seed List for 1863.” A first-rate list, with valuable hints on the cultivation of furze and lupins, and excellent directions for laying down land to permanent pasture.—“Joseph Courcha, Esmond Road, Grove Road, Victoria Park, Descriptive Catalogue of Dahlias, etc.,” being a very full list of the best varieties of every description of florists’ flowers and bedding and miscellaneous plants.—“William Paul, F.R.H.S., Nurseries and Seed Warehouse, Waltham Cross, N., Spring Catalogue of New Roses, Hollyhocks, Gladioli, Pelargoniums, Phloxes, etc.” Mr. Paul has long stood at the head of the rose-growing profession, and seems likely to maintain that honourable position. The list is very rich in new kinds, which are accurately described.

CLIANTHUS. — MUSGRAVE’S STOVE. — Is there any means of getting rid of red spider on the *clianthus*? tobacco smoke has no effect. I have tried one of Musgrave’s slow combustion stoves, and find it perfect as far as regulating the heat is concerned, but I would advise the makers to have more openings for the escape of the steam, for in the stove I have it is *merely nominal*; and when the weather is cold enough to require much heat from the stove, it is too drying and scorching for the plants. I must try if I can have some more openings made before next winter, or else contrive some vessels of water to stand on the edge of the stove.—*S.H.* [Quick

growth is the very way to keep red spider away from *clianthus*; if you cannot grow the plant quick it will be eaten up. We have heard so many good accounts of Musgrave’s stove that we feel it our duty to give the above as we received it. The house in which we tried one of these stoves is naturally damp, so we never noticed any drying effect. But a large seed pan filled with water and placed on the stove would be a certain remedy.]

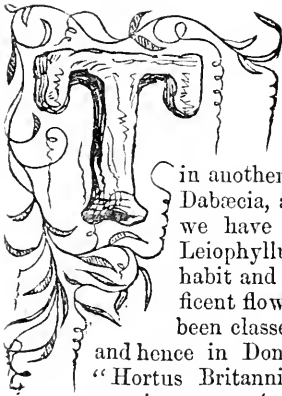
ROSES. — E. H. W. — You have evidently been but a short time a reader of the *FLORAL WORLD*. All these points about standard roses have been treated in the most ample manner. It is certainly too late to plant standards in the ordinary way, but if extra care is taken they may be planted any time this month, and the earlier the better. It is not long since we told how standards were planted in July, and never “missed the move.” If you plant now let them be hard pruned, and keep liberally watered all the summer. The following are twelve of the most useful and cheap kinds:—Jules ar gottin, Geant des Batailles, Madame Vidot, Mrs. Elliott, General Jacqueminot, Caroline Sansal, Lord Raglan, Ophiric, Prince Leon, Devoniensis, Madame Domage, Aimee Vibert.

VARIOUS. — A. P. M. is advised to read the papers on Rose culture in the *FLORAL WORLD* of 1861—62. The whole subject of rose culture has had special attention in these pages, and it is rather trying to us to have inquiries arrive at the end of March as to the proper time of year to transplant roses. You had best leave them alone now, and lift them next November. Wallflowers must not be pruned at all, because you would prune the bloom away. Seeding geraniums may now be cut back to the third bud from the root, so as to allow three shoots to rise to form the head of the plant. The orange leaf has no doubt been injured by the paint. It is well, however, that we should advise you to see that the roots are properly drained.—*General Arbuckle* is advised to use salt as a top-dressing, in the proportion of five bushels to the rood. Salt benefits all root crops, especially carrots, parsnips, and potatoes.—*Julia Reincke.*—Your shrub is *Jasminum nudiflorum*, one of the most beautiful hardy shrubs we possess for early blooming. It will thrive in any soil and any situation.—*A. F.*—See article on the subject.

THE
FLORAL WORLD
AND
GARDEN GUIDE.

MAY, 1863.

THE AZALEA.



THE great family of Ericas—*Ericaceæ*—is usually divided into two great groups. The first of these comprises in one section the true Heaths, and *Gypsocallis*, the moor heath, and in another section the *Andromeda*, *Arbutus*, *Pernettya*, *Dabæcia*, and other allied genera. In the second group we have *Rhododendron*, *Azalea*, *Kalmia*, *Menziesia*, *Leiophyllum*, and *Ledum*; mostly shrubs of stately habit and valued for their handsome foliage and magnificent flowers. The majority of the Azaleas have usually been classed under the generic name of *Rhododendron*, and hence in Don's "Dichlamydeous Plants," and in Sweet's "Hortus Britannicus," there is but one plant named under the generic name *Azalea*, and that is *A. procumbens*, a trailing shrub, native of Britain (but scarce) and North America, and which was formerly known as *Loiseleuria procumbens*. As the term "American plants" is applied indiscriminately to all the Ericaceous shrubs commonly cultivated in peat-beds in this country, it is worth remarking that but a small proportion have been introduced from America, and those the least valued of the whole. Thus, among the plants now classed as azaleas, China has supplied us with *A. indicum*, the most prized of all; *A. amæna*, *obtusa*, *Danielsiana*, *crispiflora*, *ovata*, and *sinensis* are also from China. The oriental species are all less hardy than the American kinds, but they are mostly of great interest, and unsurpassed for beauty among our hardy flowering shrubs. It is usually stated in horticultural books that all the hardy azaleas are deciduous, and all the tender kinds evergreen. This is nearly, but not quite true. *Azalea squamata*, bearing rosy crimson flowers, is deciduous, and requires greenhouse culture; on the other hand, *A. amæna*, flowering profusely in April, is evergreen, and quite hardy. *A. obtusa*, which is equal to *amæna* in beauty, perhaps a trifle more showy, is, we believe, also quite as hardy; but of that point we cannot speak with certainty, having no plants of it out during the winter of 1860-61, when *amæna* in our collection passed through the trial with

only a trifling amount of injury. The show azaleas are for the most part varieties of *A. indica*. The hardy garden azaleas, including those called "Ghent Azaleas," are mostly varieties of *A. calendulacea*, *nudiflora*, *speciosa*, and *viscosa*, all natives of North America.

CULTIVATION OF HARDY AZALEAS.—From the name *azaleos*, dry, it may be inferred that the hardy azaleas prefer a dry position. Such is, indeed, the case; hence we never find them doing well in swampy positions, or on the margins of lakes, where the more robust species and varieties of *rhododendron* usually grow most luxuriantly, and flower well. But the azalea is not so particular as to position to prevent its being associated with any and every class of *Ericaceous* shrubs in the same bed, provided the soil used is a gritty peat containing plenty of fibre. A west aspect is the best for hardy azaleas, as they are then less liable to injury at the time of expanding their blossoms, and in case of long drought, are less apt to suffer than they would be in a south exposure. At Stoke Newington we have grown in a north-west aspect all the hardy species, and most of their varieties, in the same bed with *Kalmias*, *Rhododendron* species and hybrids, *Ledums*, *Vacciniums*, *Pernettyas*, *Ericas*, *Gaultherias*, *Menziesias*, *Andromedas*, etc., and their growth has been luxuriant and in every sense satisfactory. As a matter of taste, the deciduous azaleas do not group well with *rhododendrons* on account of their miserable appearance all the winter, and in arranging an ornamental ground we should never place groups of azaleas very near the drawing-room windows, but rather in beds by themselves at some distance, keeping the *kalmias* and *rhododendrons* for the foreground, on account of their fine appearance in the winter. As to their cultivation for decorative purposes in the flower garden, it is scarcely needful to say more than that they should be planted in two feet depth of peat, or bog earth containing plenty of fibre and siliceous grit, and be left to take care of themselves. Generally speaking, they require neither artificial watering nor sheltering, but if there happen long periods of dry weather, when the plants are growing, that is, from the middle of April to the end of June, water should be given plentifully. But this labour may be obviated by covering the beds with green moss, which will arrest evaporation from the soil. Old beds in which the plants have grown very large, may be benefited by top-dressing with rotten cow-dung; this should merely be laid on in winter, and the beds should never be dug or disturbed except for replanting. The best time to form a plantation is the month of October; but they may be planted any time from October to March, if taken up with good balls, and the roots kept moist by proper packing. In exposed situations the blooms are sometimes injured by late spring frosts. This may be prevented by covering with hoops and mats, but generally such protection is not needed, for the deciduous kinds are among the most hardy shrubs we possess.

In forming plantations of azaleas, it is best to raise the beds above the general level, especially on wet clay soils. The method we generally follow when laying out new gardens, if the soil happens to be naturally damp, is first to carry a few extra drains to the spot selected; and then to lay down *on the surface* without making any excavation, two or three feet depth of good turfy peat and silky yellow loam in equal proportions, and well chopped up and incorporated. This forms a mound, which is banked round with the soil of the place, and for this purpose clay answers admirably; on the outer slope of the inclosing bank we lay grass turf or

spergula to form a green glaucis. If there is a large bulk of soil, the roots are kept sufficiently moist, and there is no fear of the loss of plants in wet seasons through rotting at the collar, which is a calamity to which azaleas are occasionally subject. As in some districts peat is an expensive article, it is right to add that if the situation is damp, one foot depth of soil is sufficient. If peat is altogether unattainable, a good soil may be formed by slicing the turf from an old loamy pasture, and laying it up twelve months. This mixed with one-third sharp sand will suit them admirably. We have lately planted a large collection of rhododendrons and azaleas on a property consisting of a tenacious clay without carting in a particle of peat. We found in one part of the ground a spongy soil, consisting chiefly of huge hummocks of moss, carex, and calluna, the surface was sliced off and conveyed to the beds direct, and after being chopped over and improved by the addition of a fourth part sand, the shrubs were planted, and will do as well as in peat. But common garden loams are quite unfit for the purpose, and calcareous matters are poison to the whole family.

Propagation.—Layers made in the month of March will be fit for removal in the same month, the second season after the layers were made. The layers must be notched or twisted, and be pegged down very securely. It is best to surround them with a bunch of dead moss, into which they the more readily throw their first roots; seedlings may be raised in any quantity, for the plants produce abundance of seed. Old beds will, indeed, be found to produce numerous seedlings from self-sown seeds, and these usually come pretty true to the species from which they originated. The hybridization of the azalea has been pursued in a most vigorous manner, and the result is seen in the numerous beautiful varieties enumerated in the catalogues. The rhododendron and azalea readily breed together, and there are several useful intermediate forms.

In crossing, the pollen is chosen from flowers of good colour, and those selected to bear seed are preferred for their good forms. The flower chosen for seed should be watched, so that the anthers may be removed before they burst, and should then be covered with gauze to prevent the intrusion of insects. Gather the pollen from the sire with a dry camel's hair pencil, and introduce it to the stigmas during the hours of midday, when the air is dry and the sky bright. When the seed is ripe store it in the pods; sow in April, and place in a cold frame and grow the seedlings in pans for twelve months; and then plant out in beds six inches apart, and there leave them till they flower. Those only that are as good or better than what we already possess should be kept. The remainder should be destroyed. Those who have had practice in propagating ericas and camellias may succeed in raising hardy azaleas from firm shoots of the current year's growth, but the process is slow and uncertain.

Desirable Species and Varieties.—*A. pontica*, formerly catalogued as *Rhododendron luteum*, is the yellow-flowering species of the Levant, and one of the most gorgeous flowering shrubs of our gardens. There are of this species numerous varieties with bronze, orange, and white flowers; the last named are the least effective for out-door use. *A. calendulacea*, the marigold-like azalea of North America, is also very desirable for ornamental purposes, and invaluable for the fronts of shrubberies and for beds. Of this species there are some fine varieties with golden, flame, and reddish yellow flowers. *A. nudiflora* has been more prolific than any

in the production of varieties, and amongst them are many white, blush, red, lilac, and purple flowers, of which, generally speaking, the whites are the least valuable. *A. speciosum* is a showy species, and its varieties are all good; they are mostly red, orange, and scarlet. *A. viscosa* furnishes the best of the hardy whites in *A. v. odoratum*, which is sweet scented. From these four species innumerable intermediate hybrid forms have been produced, and the varieties known as Ghent Azaleas take their name from the district where the raising of hybrids was first practised. *A. arborescens* is a magnificent species, growing to a height of ten feet, and flowering in June. *A. nitida*, *hispida*, *ledifolium*, and *glauca*, all produce white flowers, and all are good; the last is a very pretty shrub for the wilderness or peat border. Lastly, *A. amœna* is unquestionably the most elegant and useful of all the smaller shrubs adapted for the peat-bed. It grows in the form of a close round bush, rarely more than eighteen inches high, covered winter and summer with small dark green glossy leaves, and in April blooms profusely, the colour being a rich rosy crimson. This forms a superb marginal line for a clump or bed of American plants, and is thoroughly hardy. It is also invaluable for the conservatory. *A. obtusa* is a good companion to it, and in some respects superior for culture under glass.

CULTURE OF AZALEA INDICA.—The culture of these resembles, in many points, that of the hardy kinds just described; but, as the plants are not hardy, they need the protection of glass and the aid of a moderate amount of heat during winter and early spring. The soil for specimen plants should be tough fibry peat three parts, sharp sand one part, silky yellow loam one part. This should be chopped up to the size of the fist, and in potting the roughest parts should be used to place over the crocks, and to fill in after the finer parts of the mixture have been placed next the roots all round. The pots should be well drained, and should always be so placed that superfluous water will drain away quickly, for stagnation at the root will be hurtful. Supposing we begin with plants well covered with bloom buds, we should secure them a temperature averaging 50°, that is, ranging from 45° at night to 60° by day, with plenty of water at the root. As soon as the colour shows well at the points of the buds, give them ordinary greenhouse temperature with plenty of air, and the bloom will last a long time. They must have plenty of water. As soon as the bloom is over, place them again in a temperature ranging from 50° to 60°, syringe frequently, and maintain the atmosphere in a moist condition. As soon as their growth is completed and they begin to knot for bloom, give them air freely and discontinue syringing. After ten or twelve days of this treatment remove them from the house and place them under a wall facing north till the end of October, and then house them for the season. They may be brought into bloom as required by taking them into a warm house in successive batches.

Propagation of Greenhouse Azaleas.—When raised from seed sow in shallow pans, in peat, in February, and place in a gentle heat. As soon as the seedlings have three leaves each, prick them out four inches apart, in shallow boxes; and in these let them remain till the next spring. Then pot them singly in sixty sized pots, in turfy peat, with one-fourth sand added; place in a moist bottom-heat, and grow them on, shifting as they require it, till they flower. To propagate from cuttings, choose young tops, in a soft condition; and after removing the lower leaves, dibble

them into shallow pans, filled to within an inch of the rim with rotten cocoa-nut fibre, and over that an inch of sand. Place over them bell-glasses, and keep moist, warm, and shaded. When rooted, remove the bell-glasses, and keep them in the greenhouse till the wood is somewhat hardened, then pot singly, and grow on by regular shifting as required. The choice varieties are generally grafted, and *A. phœnicia* is the stock usually employed. Side or saddle grafting are the best modes, and the best time is early in the spring, as they can be helped with a moist bottom-heat, and have before them a long growing-season after the junction has been effected.

A SELECTION OF AZALEAS.

BEST TWENTY-FOUR OLD VARIETIES.—Admiration (Ivery), white, with large flakes of carmine, fine form. Barclayana (Ivery), white, striped and flaked with rosy purple; one of the best. Beauty of Reigate (Ivery), white, deeply spotted with carmine, splendid form. Chelsonii (Knight and Perry), shaded orange scarlet, free bloomer. Crispiflora (Standish and Noble), rich rosy lake, very distinct; a fine late variety. Criterion (Ivery), splendid large salmon pink, edged with white; one of the finest and most distinct in cultivation. Distinction (Ivery), rich salmon, margined with white, upper petals spotted with crimson; great substance. Duc de Nassau (Mardner), rosy purple. Flower of the Day (Ivery). Gem (Ivery), very deep rich salmon, splendid form and substance; one of the very best. Holfordiana, rich rosy purple, large and fine. Iveryana (Ivery), fine large white, striped with rose; one of the very best. Juliana (Knight and Perry), orange scarlet, deeply spotted, fine form; one of the best when well grown. Magnificans (Ivery), large white, fine shape. Miltonii (Frost), rosy lilac, fine form, large. Model, bright rose, fine. Perryana (Knight and Perry), orange scarlet, fine form; one of the best. Rosy Circle (Ivery), deep rose, fine form and substance, a perpetual kind; one of the very best. Sir Charles Napier (Kingham), pink, large and fine. Stanleyana (Davies), rose scarlet, fine form. Standard of Perfection (Epps), rose, fine form. Trotteriana, brilliant reddish purple; one of the best. Variegata, salmon pink, with white margin, distinct and fine. Variegata superba (Ivery), an improved Variegata.

BEST OF 1861.—*Flag of Truce* (Todman), white, semi-double, large. *Alba delecta* (Verschaffelt), white, streaked with purple. *Dieudonné Spac* (F. Spac), salmon ground, margined white, upper petals spotted dark crimson, large. *Duc d'Aremberg* (Verschaffelt), centre carmine, petals blotched and margined with white. *Lord Elgin* (Todman), deep bright rose, spotted on upper petals, very showy. *Madame Ambroise Verschaffelt*, violet rose, bordered with white, flaked and striped with rich carmine, upper petals spotted with maroon and crimson.

BEST OF 1862.—*Souvenir du Prince Albert* (Verschaffelt), deep salmon rose, with broad white margin, semi-double, distinct and splendid as to flowering, but not well formed.

Bride of Abydos (W. Barnes), white, flaked with rose, most beautiful in clearness of colour and delicacy of marking, but somewhat deficient in form. This will probably prove a most valuable variety for the amateur, on account of its comparative hardiness, free blooming, and vigorous habit; though on the exhibition table we doubt if it will ever attain a leading position.

Attaclerensis (J. and C. Lee), a hardy garden hybrid, with rich orange yellow flowers, and a free robust habit; will be invaluable for peat-beds.

The above are all we can enumerate as really good among the azaleas brought before the public for the first time during the past season. Mr. Todman and Messrs. Kinghorn have several promising seedlings; the best among them is Todman's *Lord Canning*, a pretty rose-coloured variety; which seems likely to improve, and will perhaps yet prove to be first-rate.

BANKS AND BRAES.

I SUPPOSE there will be no demur on the part of the reader to my assertion of the doctrine that every garden should somewhere have a hillock, a raised bank, or a dell. It must depend very much on the size and situation of the place how much space may be devoted to elevations and depressions, but in some way or other art should come to the aid of nature, and a continuous dead level should be proclaimed a monstrosity. If the "land o' Burns" had been like Salisbury Plain, we might have missed that sweetest of good Robert's ditties—

"Ye banks and braes o' bonny Doon,"

and perhaps have never heard of Burns at all, for mountains make poets, as they nourish blue gentian flowers and snowy saxifrages in their cool clefts, and wild thyme and heather on their sunny foreheads. We don't want mountains in gardens, but we must have hills and hollows, walks that lead down, down, among mossy patches and between walls of rock and sprawling cistuses and cotoneasters and tassellings of fern; and up again to round knolls of ivy, and again higher to clumps of juniper and tussock grass and fringes of violet and primrose, with a bowery nook somewhere for rest and a good view of the open country, to make excuse for halting. I can bring Lord Bacon into court as a witness for hillocks, and Robert Burns shall plead for lovers' retreats; and, if needful, the authority of Shenstone shall be added for embellishing these ups and downs with "winding waters" and flowery knolls. In the great days of the picturesque, the lovers of molehills and creeping thorns committed the very common mistake of overdoing a good thing, and it was thought the acme of perfection of taste in gardening to pile up rockeries near the drawing-room windows, and debar entrance to the doorway by means of prostrated trees, and rivulets of water, and blocks of stone raw from the quarry. English gardening has now come to such a healthy state, that it is no longer needful to insist that all wild scenes should be removed to a distance from the dressed grounds, and that this principle should always rule in laying out a place—that *we go to* the rockery and wilderness, they must not *come to us*. So, of necessity, if there is to be a bowery nook, as there ought to be, a place of repose both for the eye and the mind, it should be the natural terminus of the walks that lead to it, and the eye and the mind should alike be prepared for it by a gradual transition from architectural terraces, elaborate and highly coloured flower-beds, across smooth lawns, through belts of shrub and among clumps of deciduous trees, the scene everywhere becoming less formal than the point we started from, till we are prepared to meet nature in undress, or rather in the semblance of

undress, and suffer us to brush our faces and our hearts with fern-fronds, tufts of towering grass, plumes of humea, and filagree knots of meadow-sweet. To place the banks and braes where they will not offend is not all that is needful; they must be located where they are likely to be useful; in fact, everything in a garden, even to an individual blade of grass, should have its place and its purpose. Now suppose my friend comes to see the garden; or, better still, comes to see *me* (for I don't like people who merely comes to see the garden), of course he takes a peep at new geraniums, fuchsias, rhododendrons, and lobelias, but it is not likely we can talk in earnest either about these, or anything else, in the burning sun and with our poor feet on hard gravel. No, I coax him away over the soft turf to the roses, then among the bushes, and next among the brakes, and so downhill to the banks and braes, and there in a shady arbour we take our rest, and perhaps fumigate the beech leaves overhead with the exhalations of a leaf that does not come to perfection in this climate. You can really talk when you are shut in between shelves of rock and slopes of heather, and tumble down precipices smothered with fern, and that is one use of banks and braes in gardens. But suppose you are alone, tasting the sweets of solitude; then where else would you go to enjoy the song of the thrush at three A.M., or that of the nightingale before the turn of midnight, or to peep into a robin's nest, and exchange courtesies with Kahkahgee, the king of ravens. There is another use of green retreats and mossy dells, to make one happy in communion with nature, and see—

“The horizontal sun
Heave his broad shoulder o'er the edge of the world,”

when the rosy dawn has awakened all the voices of the grove, and the first slanting beams of sunshine have to fight their way through bars of amber and glittering dewdrops. It is true that it is amidst the works of art that we thus enjoy our reveries, but it is art shaping its works to the model of nature, and selecting things grotesque with a full regard for all accompaniments and accessories. No doubt many other uses may be thought of, but there is, at least, one more worth naming, and that is the service of such nooks for the cultivation of plants that like to bask in the full sunshine, or hide in the cool shadows, or nestle close in clefts and hollows where there is a trickle of water or a bed of moist peat, or a cushion of moss to keep them company, as in the days when they dwelt with the wild bee, and heard the tinkle of the sheep bells on banks of yellow tormentil and bosky thyme.

My present garden is so small that it is beyond all my hope to carry out my own views on the disposition and forms of rockeries, but I have some banks and braes inclosing my quiet retreat; and here is a picture of the entrance to what is commonly called a “summer-house” in my garden, and which is one of the prettiest and most comfortable structures of the kind I have ever seen, even in the paradise of a great duke. My summer-house is all of woods—that is to say, woods in their natural colours, yew posts, gnarled apple-tree pediment, oak wainscoat, yew blocks for seats, supported on oak pillars, and of course not a particle of paint used anywhere. The front has two wings of hazel rod lattice, and one of these is just visible in the picture to indicate that the path leads somewhere. The picture is from a photograph taken last summer, and is another instalment

of the series promised to those readers who wish to see my garden, and who thoroughly understand that it is impossible for me either to invite them or to receive them if they come uninvited. I know what Paul says (Heb. xiii. 2), but my garden is my outdoor sanctum, and I keep on the doors of all my sanctums a permanent inscription, "Shut up in a brown study." Now, how are these rockeries made, and what shall we grow on them? Perhaps, as I have introduced the reader once more to my garden, I cannot do better than say how my small rockeries are constructed. In the first place there is a plot of ground affording a suitable site. We must partly plant out that site, for the whole rockery ought not to be seen from a distance, or it betrays its strictly artificial character, and such a thing ought not to be measured and criticised from a distance, and, in fact, ought not to be visible at all from dressed grounds, for it cannot harmonize with architectural lines and perfect flower-beds. Well, we plant it out with clumps of the choicest shrubs and trees, such as purple-leaved nut, and berberry, weeping and variegated lime, holly, white-leaved maple,



Siberian birch, American willow, and other subjects that fit appropriately to either wild or polished scenes. Then we mark out the boundaries and proportions of the rockeries, and as much as possible without descending to severe formality, give the preference to semicircles and ellipses, so as to get bold sweeps and connecting blocks, which may be made to jut out and divide one portion from another. Then it is mere labourer's work to wheel in a mass of clay or loam, or any stuff that may be had in bulk on the premises, but best of all, clay, because almost any tree or shrub afterwards planted on the heights will root in clay and prosper, and the material holds moisture a long time. Now you have your banks in the rough; some are higher than others, so as to be seen as the eye roams over the summits of those lower down; and there is one way through to some interesting spot or entertaining object, and another way out to the lawns or shrubberies, or water scenes; and where the rockeries are vast enough, water can be introduced with delightful effect. But I am dealing with

the matter in a small way. I have my elevations and I face them where they are irregular with large blocks of gray sandstone or the burrs from the brick-kiln, but of one material only, whatever that may be, in each separate section, so that each of the scenes is distinct in itself.

If a straight line is anywhere needful, as in the present instance it is with me, I make amends for that by constructing a rough wall of tree stems. These are laid horizontally, and kept in their places with stout uprights driven down in front; and in the picture part of such a wall is shown on the left hand, where we turn the corner from the straight walk into the nook. Carry these facings of stone or dead trees eighteen inches higher than the present level of the bank of clay, and then throw on a bed of peat, and you may grow on that bank almost anything that will really live out of doors in this country. As for British ferns, which ought to have predominance among the permanent stock of such a plantation, the best thing I can say for them is that for the most part they will grow in any soil. I have great old plants of common *Lastrea*, Lady Fern, *Blechnum*, Brake, Polypody, Royal Osmund, and others as good, growing in clay alone, and all the aid they get is a daily sprinkling by means of the hydropult during the months of April, May, and June; this they rejoice in, and make large glittering green feathers delightful to behold. For special purposes special means must be employed. It is on such banks we can best display Pampas grasses, huge-leaved Cannas, the common *Caladium*, and the many curious plants with ornamental foliage that are lost in the borders, and of little use in beds. I never saw anything in my life that pleased me more than the grouping on the bank here figured as we had it last summer. Some blocks and logs were taken out from the front here and there, and the spaces filled up with leaf-mould. In those spaces we planted all the saxifrages we could lay hands on, and they were beautiful. Among them we had *hypnoides*, *Icelandica*, *oppositifolia*, *pyramidalis*, *pulchella*, etc. In other similar openings tufts of *spargula* and *sagina* were inserted. Between the stones tufts of variegated-leaved thyme, sheep's fescue grass, the lovely variegated rue, variegated *Helix arborea*, and other such plants of small growth and striking characters. Up the slope of the bank the ferns were aided by the contrast of cannas in abundance, all of which flowered profusely, and their magnificent foliage made the scene luxurious.

But among these, towards the front, there were mixed all sorts of interesting plants, such as old stumps of *Cineraria maritima* planted in a mixture of broken chalk, charred rubbish, and leaf-mould, large plants of Meteor fuchsia for the sake of its leaves only, and further back *Chenopodium atriplicis*, and our now famous foliage bedder, the purple orach, allowed to grow to its full height, and make trees as tall as myself. If you can imagine what these colours were, relieved on every hand by the true green of Lady Ferns, *Lastreas*, and *Osmundas*, you will understand that a rockery need not be a weedy, or a mere refuge for the destitute. It would astonish some of our readers if I were to give a list of all the plants I have used for this sort of work, and with good effect too. For instance, I once wanted to get rid of a long seedling mountain ash till they were strong enough to plant out in their places, and I scattered them over a huge extent of banks I had just then been carrying out for a gentleman to whom I was acting as adviser in general. They did look pretty mixed with the ferns and fancy plants, and they were actually

thought to be choice exotics, till I let the secret out myself. But cannas are not the only plants of gorgeous aspect we can use in this way. Last summer I put out begonias and caladiums, *Coleus Blumei* and *Verschaffelti*, and, in fact, any stove or greenhouse plant, however valuable, that is really capable of withstanding the vicissitudes of an average season, the only requisite being suitability for the purpose; and generally a striking foliage settles that point.

My banks are helped out by means of knolls and butts. There is nothing more effective among rustic-work than a huge butt well placed and planted. On each side of the doorway of my wigwam are clumps of lady fern, which delight in the shade, and beyond these we have huge butts formed of sections of the bark of an oak; these are fitted together so as to form the semblance of a tree cut down but hollow, and they are appropriated to pampas grasses, which are thus lifted high up and fall over all round with tenfold the grace they have when planted on the level. On some of the old trees we have trailing ringlets of wall linaria, tormentil, periwinkle, stonecrop, *Sedum denticulatum*, *mesembryanthemum* and *portulacca*, and odds and ends of *tropæolum*, *arctotis*, *gazania*, and other flowering plants that have something of a wild look about them, and that tell better dangling from top knots, or peeping round corners, than when stiffly set out in beds like a party arranged for a quadrille which never begins. That, in fact, is just what is wanted for a set of bedders—they ought to dance; *then* we should have the poetry of motion as well as of colour, and we could invite friends to see our vegetable chromatropes. As for grasses they come in anywhere, in sun and shade, damp and dry, and harmonize with anything in these scenes. Among my favourites for banks, I must name common canary (steal a pinch of seed out of Dick's cage, and tell him he shall have a slice of apple in exchange), tussack, *Festuca ovina*,^o *rubra*, and *glauca*, *Aira cæspitosa*, *Stipa pennata*, *Briza geniculata*, *Eranthis Ravennæ*, *Lagurus ovatus*, *Panicum Italicum*, and a few of the commonest species of *earex*, of which we can always find roots among the peat and in the rhododendron beds.

I am well aware that to make the best of banks and braes requires some experience and taste, but the principal thing is to begin well. Once get your curves, sweeps, breaks, openings, and walls of greenery and rockery nicely disposed, and it is simple work enough to plant them. The robust species of British ferns and grasses will thrive almost anywhere and anyhow, but the shady parts should be chosen for all the choice ferns, damp places for Lady fern and *Osmunda*. For Saxifrages you must have a north aspect and a good depth of turfy peat; it is a moist air they need most, a hot sun and a dry soil are death to them. For the succulents choose the hottest and driest position, and if you want a carpet of moss choose a cool, damp, shady nook; take out the soil a foot deep, and fill in with sour peat or a mixture of whatever comes out of pots in shifting plants; the old sour leaf-mould, and other exhausted stuff of a sandy kind in which plants have grown, is the best of all soils to encourage mosses and liverworts in a damp place. Thus, you see, nothing need be wasted in a garden. It is a wonderful help to all such scenes to play the engine upon them once a day at least, better twice, from the middle of April till the end of June, or, in fact, the whole of the season, except in rainy weather. It not only promotes luxuriant growth, and keeps the foliage looking like new wax-work, but by moistening bark, logs, rocks, and soil,

promotes a growth of mosses, liverworts, lichens, and fungi everywhere, and brings Dame Nature into our closest proximity, so that we can better understand the pictures of the poets and sympathize with those who talk of "bearded oaks and hemlocks," with a proper zest and enthusiasm, and that is something gained among the enjoyments of life.

I tremble now to think that I have only touched this subject after all; I have forgotten my lovely ivies, of all shapes and colours; my double primroses; procumbent yews, that grow down as flat as ivy left to trail on the ground; my spiky specimens of *Juniperus Phœnicia*, with their sparkling cones; my golden yews, and my grand background of conifers, with *Pinus monticolor*, *nobilis*, *Nordmanniana*, *cembra*, *Austriaca*, *excelsa*, *Picea pinsapo*, *Abies*, *Khutrow*, and a whole lot of them; but as they are all doomed to depart, for they have grown too big for me, they will excuse my brevity, and for other matters I hope the gentle reader will be equally indulgent till an opportunity comes again to gossip on these subjects.

SHIRLEY HIBBERD.

BEDDING AND BEDDERS.

OUR summary of the recent exhibition will show which way the wind blows in ornamental gardening. Literally it has been blowing from the wrong quarter lately, and a hot sun and an east wind have made the tops of the roses shrivel, and there are plenty of those leaf-rolling caterpillars, collectively known as "blight," amongst them; but the metaphorical wind is from another quarter of the heavens: it must be due south, considering the march of colour, for we are going towards the tropics, and taking our own climate with us, for the aurora is left far behind as weak and flashy, and nothing less than sunshine and Tyrian dye will suit us now. If we do not see something better than calceolaria and scarlet geranium in the villa gardens this season it will not be our fault, and wherever we do see it we shall knock at the door and leave a prospectus of the FLORAL WORLD, as the only cure for a mortal disease in the constitution of decorative horticulture. The demand for *Antennaria margaritacea* tells us that there must be as great a lack of silver coin here as in the dis-United States, where a real dollar is worth a yard of wall paper, and a silver cent almost as great a rarity as the Koh-i-noor. You may depend upon it that we cannot overdo it in the use of plants which produce a de-

sirable effect by means of their leaves only, because then we have in the bed or line one uniform colour, instead of dottings of red, white, or blue on a ground of green. Take a distant view of a bed of geraniums, and as you see the flowers *en masse*, the effect is decided and satisfactory; you are in fact delighted, and so you go closer, and it is like being at a conjuror's elbow, and you no longer enjoy the delusion. Now you see the scarlet broken into splashes, and the green of the leaves spoils it. The combination of the green and scarlet produces on the retina a sort of neutral brown.

If you do not believe it, mix red and green together with water-colours, and report to us on the result. But pluck a thousand trusses of scarlet geranium, and stick them in close together in a bed of dark soil, and you see at once how one colour on a dark ground satisfies the eye, whereas two colours, and those complementaries, cause dissatisfaction when both are seen without partiality to either.

It follows (and if it does not appear to follow, we can prove the point by other arguments) that a plantation of flowers set out *parterre* fashion, should be viewed as nearly as possible in a horizontal line, or at an angle just low enough to take in the view of the furthest of the colours. Now

to plan out your geometric garden consider first the several points from which it may be viewed, also reasonably, one angle and one of those points should be the drawing-room windows. From one of these points make your plan on this principle, that the colours in front are to contrast harmoniously with those next in the rear, and so on to the further side of the whole is to be a composition at which a true artist will clap his hands with delight. Hundreds of garden plans pass through my hands every year, and I have one uniform way of judging them. I take a box of water colours, and draw on a slip of paper the predominant colours in stripes, each in the proportion it has on the plan, and if they do not harmonize on the paper they will not on the ground, and this I have proved again and again in practice. When I go to Kew or Sydenham, or where else, I make a plan in pencil on a page of my note-book. Not that I really want it, for I have a tremendous memory, but to make sure in case of a nice point arising out of some matter I did not trouble at the time to fix on the wheel of my sensorium. When I get home I paint out the pattern, and I invariably find that what I thought good on the ground will be good on the paper. It ought to be so, for orange and violet look well side by side in a flat mosaic, in a lady's bonnet or dress, in a bouquet, and in a scheme of bedding. Well, you set out your colour, and you find that for your centre you want a neutral tint, to prevent the eye being drawn that way, and to prevent the scheme shrinking, for it will shrink almost to nothing, with strong colours in the centre. Now try again with the colours; make mere daubs of red, blue, yellow, crimson, etc., etc., close together or meeting closely. What a mess it will be. But take some strong grays, blues, whites, and ambers, and with these paint sharp lines between the strong colours to separate them. Presto! how the scene is changed. If two colours come side by side that do not very well harmonize the divisional line makes them tolerable. Put amber

on your purples, whites on your blues and scarlets, blue on your orange, gray anywhere. By the way, gray is a good relief to any strong colour, so gray edgings come in generally, and are wonderful for geraniums. Now you see how necessary it is to colour your ground as the Moors coloured their pavements. Pale green will light up any combination of deep, rich colours, such as purples, crimsons, and scarlets, and you have that always at hand in grass turf. But you say, "Why then find fault with the green leaves of Tom Thumb when a mass is closely inspected?" For this reason, that the scarlet flowers are sprinkled on the green. But when a mass of scarlet has a green boundary, the green is pure green and green alone; if it is even dotted with daisies, you ought to be ashamed of it. But go on with the colouring. Tear up the paper on which you made the daubs for illustrating the use of edgings, and paint another. Put in the centre a patch of creamy white, and suppose that to be Flower of the Day geranium. Round that put patches of lavender, cerise, and flesh; these are your semi-tones; and you can do them in ageratum, geranium, heliotrope, and verberna. Edge these with half tones opposed to the half tones of the mass. Now surround them with patches of orange, purple, scarlet, and crimson, in the order named, all round, and edge these with blue and silver, and the deed is done. From whatever point you view the group it will be harmonious. You can do all these in calceolaria, geranium, verberna, and petunia, and the edging will require cerastium, lobelia, *Stachys lanata*, *Gnaphalium lanatum*, and *Antennaria*. As easy done as said. You only want plenty of plants, and courage to use them in sufficient quantity, and if you can't do that, level the beds down, and sow grass seeds, and make up your mind that bedding must be bedding, and not patching; and, at the same time, remember that the FLORAL WORLD is no enemy of bedding, but a decided enemy of bad bedding, as a degradation of gardenesque. S. H.

PROFITABLE GARDENING.*

THIS is a reprint of the papers which have appeared under this general heading in the *FLORAL WORLD*, but with additions and illustrations. Our friends have frequently suggested to us the desirability of a republication in the form of a volume of those papers, and their wish is now gratified, and they can have the book for 3s. 6d. It will be found a very complete

manual for the kitchen and fruit garden, as it embodies the results of much experimental as well as ordinary routine culture of all our most useful fruits and vegetables. It is selling so fast that we are already satisfied we did right in conceding to the wishes of good friends, and we leave it for the readers to determine what are its merits and defects.

FLOWER SHOWS OF MARCH AND APRIL.

ROYAL BOTANIC SOCIETY, MARCH 28th.—The tent appropriated to the exhibitors was admirably filled; on one side was a bank of specimen plants, and on the other the great collection of hyacinths, tulips, cut roses, and small plants in flower. At the head of the tent Messrs. Standish and Veitch united the two departments by means of a bank of novelties, which carried the visitors to the plants one way and to the flowers another. This collection of novelties comprised subjects that have been many times exhibited, yet they are all novelties still, and the greater part of them are undoubtedly destined to make some marked effect upon the aspect of English gardens in time to come. The most striking plant in Mr. Standish's lot was *Retinospora pisifera*, the margin of the tufts of leaves being of a rich yellow colour, and looking as if each separate bundle of twigs terminated in gold fringe. The variegated form of the umbrella pine, *Sciadopitys verticillata variegata*, cannot be judged in a small state; no doubt if the variegation is permanent, a great tree of this pine, on a lawn or knoll in a park, will be one of the most remarkable objects yet seen in an English landscape. Another of the really useful things from the same noted grower, was *Eleagnus Japonicus variegatus*, a charming shrub. The green-leaved *Aucuba Japonica* was shown, in both the male and female form, by Mr.

Standish and others. Among the more showy of the novelties, Messrs. Veitch made a good effect with a huge plant of *Maranta vittata*, the large leaves regularly cross-barred with silver lines; but better still was a plant of the charming *Rhododendron Jasminiflorum*, with its large creamy, jasmine-like blossoms, the most beautiful of all the small-flowered rhododendrons.

Mr. Bull sent a nice lot of plants, the rarest and best of which was *Gleichenia flabellulata*, with very strap-shaped lax-looking fronds, so densely produced that the plant looked as solid as a ball, showing as much of good culture as the merit of the species. The collections of *amaryllis* from Messrs. Cutbush and E. G. Henderson, were very fine. Those from Messrs. Cutbush were beginning to look the worse for wear, having already done duty upon several occasions. Among those from Messrs. E. G. Henderson and Co. was a batch of unnamed seedlings, several of which were exceedingly good, with cerise and rose-coloured flowers, besides two magnificent scarlets, deserving to be placed as the standards of excellence at this juncture in the progress of the *amaryllis*.

The smaller subjects consisted chiefly of *cinerarias* and *cyclamens*. Mr. Holland, gardener to R. W. Peake, Esq., obtaining a silver medal for the best twelve *Cyclamen Persicum*; these comprised the white

* "Profitable Gardening: a Practical Guide to the Culture of Vegetables, Fruits, and other useful out-door Garden Products; intended for the use of Amateurs, Gentlemen's Gardeners, Allottees, and Growers for Market." By Shirley Hibberd, F.R.H.S. London: Groombridge and Sons, Paternoster Row.

and rose coloured varieties, and like all Mr. Holland's plants, showed an abundant and healthy foliage. There were two very excellent collections of a hundred hyacinths, exhibited respectively by Messrs. Cutbush of Highgate, and Mr. W. Paul of Waltham Cross. Each of these firms had also fifty pots of tulips, which were rather full blown.

Cut roses were shown in abundance, and were marvellously fragrant and very beautiful, attracting a large share of the admiration of the visitors; eight boxes were from Messrs. Paul and Son, Cheshunt, and five boxes from Mr. W. Paul, Waltham Cross. The principal novelties exhibited by Messrs. Arthur Henderson and Co. were *Arisema ringens*, the flower of which is of a rather lighter green than the leaves, with an under lip of very dark purple; *Dracæna Cannæfolia*, a magnificent specimen; *Pandanus elegantissima*, and a new *Tropæolum* Ball of Fire, a very dazzling crimson, hairy and short jointed, and a most abundant bloomer.

ROYAL BOTANIC SOCIETY. APRIL 11th.—The principal attractions at this show were the azaleas, but hyacinths were still in pretty good condition, and there was a liberal exhibition of amaryllis and of fine foliage plants. Cinerarias were very scarce. Among the cut flowers there was as fine a display of roses as any usually seen in June and July, and in this department the Messrs. Paul had it all to themselves. The small tent in which the exhibition was held was very tastefully arranged with a grand bank of plants on one side, and on the opposite side collections of small plants and cut flowers, and at the end the specimen azaleas with their huge fronts of glowing colour.

Mr. Turner made the grandest show in azaleas, with a set of six large pyramids, all perfect in outline and even masses of brilliant bloom. The varieties were Iveryana, Rosy Circle, Prince Jerome, Admiration, Holfordii, and Criterion. Besides these, Mr. Cross, gardener to Sir F. H. Goldsmidt, put up a grand half dozen pyramids, in the very best style of training. Messrs. Ivery, of Dork-

ing, sent smaller plants, but as regards quality they were certainly the best azaleas there; the blooms were larger and the plants remarkably symmetrical, and finished off in a most artistic style. Some beautifully grown small plants came from Mr. Cutbush, of Barnet; Mr. G. Taylor, gardener to C. H. Hanbury, Esq., also sent a nice half dozen, but the plants were not well matched. Among the new azaleas were many of great merit, Messrs. Smith, of Dulwich, sent a basketful of flowers of Flag of Truce; this is unquestionably a most desirable variety, the flowers large and well formed, and of the most pearly whiteness. Mr. Bull showed a promising young seedling called Pandora, the flowers of which were well formed and substantial, and of a vivid carmine rose colour; also Alexander II., like Iveryana; Duc de Nassau, large semi-double, intense lively rose. Mr. Chilman, gardener to Mrs. Smith, sent Princess of Wales, a finely shaped flower of average size, the colour pale rose, top petal warm rose. Mr. Turner sent a superb white azalea called Louise Von Baden; also President, vivid salmon-red, remarkably symmetrical, and fine substance; Perfection, intense rose; Duke of Cambridge, salmon rose. Mr. A. Todman showed Prince of Orange, Kinghornii, and Dr. Livingstone.

There was not much of a novel character among the collections of stove and greenhouse plants, very good collections being exhibited by Messrs. J. and C. Lee, A. Henderson and Co., F. and A. Smith, of Dulwich, and Mr. Williams, of Holloway.

Among the miscellaneous flowers the first in importance were the collections of roses from the two great nurseries of Messrs. Paul and Son, and Mr. W. Paul. Imagine plants and flowers equal to about a sixth part of the first National Rose Show, contributed by two growers in the month of April, and it will give some idea of the scale on which roses are grown at the nurseries. Here, too, were all the best of what we call autumnal roses in their very best state of substance and colour, showing very careful and very gentle

forcing, and the beneficial effect that way of the splendid weather we have had this spring. Mr. W. Paul put up a row of twelve nice plants, very various in size and shape, but as the large plants were in the centre, and the smaller at either end, graduating from the centre each way, this group had a very complete appearance, and was one of the best in the show.

A fine cineraria called the Rev. S. H. Widdrington, was exhibited by Messrs. S. Perkins, of Coventry; it is a rich purple with a narrow white ring. The same firm also exhibited their new Verbena Lord Leigh, in fine condition; this is unquestionably a grand scarlet, and will probably run a close race with Foxhunter this season; every grower of verbenas must have it. There was a basket of Zonale Geraniums from Mr. Bull, and among them many fine trusses of scarlet, white, rose, cerise, flesh, and crimson. Messrs. E. G. Henderson and Son, St. John's Wood, send some of the best of the tricolor-leaved geraniums, the best of which were the Countess, Sunset, Little Beauty (quite a gem), Mrs. Pollock, and Sir W. Wallace. Hyacinths were shown in plenty, and were generally good, the principal exhibitors being Messrs.

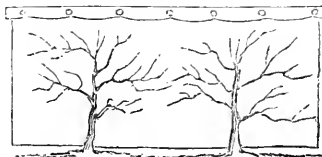
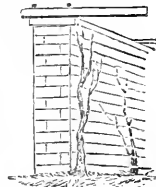
Cutbush, Highgate; Mr. Noble, gardener to J. L. Latham, Esq.; Mr. G. Fox, gardener to R. Gibbs, Esq.; Mr. A. Carr, gardener to B. Noakes, Esq.; and Mr. Taylor, gardener to C. A. Hanbury, Esq. Messrs. A. Henderson and Co. sent a new epacris called Viscountess Hill, the flowers in large spikes, and the colour a peculiar shade of salmon crimson, quite a novelty. There were a few good new rhododendrons. Messrs. E. G. Henderson had Rhododendron Veitchii, a charming flower like a Lilium. Mr. Parker, of Tooting, sent Countess of Haddington, blush white, the flowers trumpet-shaped, and resembling in form those of Datura Wrightii. Mr. Bull taught the practicals a new lesson in the use of Bourgainvillea spectabilis, by sending three plants in forty-eight sized pots, the plants trained round their willow wands, brought to a point at the top and moderately well covered with blossoms. There were cut camellias from Messrs. J. and C. Lee and Messrs. A. Henderson. We must not omit to mention a set of double Alpine primulas, and a set of British ferns from Messrs. Ivery, of Dorking, and a very charming lot of the latter from Miss Clarkson.

PROTECTION OF WALL TREES.

As the frosts of this spring are likely to do more than their usual amount of damage in consequence of the forward state of vegetation, I wish to recommend to those among your readers whose walls are not *coped*, and who cannot afford to glaze them, a method of protecting their fruit trees, which is very simple and economical, and I find perfectly efficacious.

Take narrow strips of wood about an inch wide and two feet long; nail one end of the strip *firmly* to the top of the wall, as in the figure, at about one yard interval; then cut old carpeting or matting into strips, and lay it upon the strips of wood, securing it well to them, here and there, to keep it out of the way of the tree. A narrow stair carpet answers perfectly, or if too wide it can be cut in half, and there are such things to be found in

most houses. I have seen the same thing done with branches of fir-tree by a clever Scotch gardener; but in some houses old stair carpets may be more accessible than fir-branches. Of course, the *narrower* it is the better, so that it answers the purpose, in order



that the fruit tree may not be too much shaded.

March 21.

O. M. H.

MAY, 1863.—31 DAYS.

PHASES OF THE MOON.—Full, 3rd, 2h. 52m. after.; Last Quarter, 10th, 7h. 16m. morn.; New, 17th, 4h. 49m. after.; First Quarter, 25th, 8h. 47m. after.

D M	Sun rises.	Sun sets.	Moon rises.	Moon sets.	Weather near London, 1862.						THE COUNTRY.	
					BAROMETER.		THERMOMETER.			Rain.	The Garden and the Field.	
	b. m.	h. m.	Aft.	Morn.	Mx.	Min.	Mx.	Mn.	Me.			
1	4 35	7 20	5 9	3 8	29.91	29.90	79	50	64.5	.02	Oak and vine foliate	
2	4 33	7 21	6 28	3 32	30.16	30.08	65	35	50.0	.00	Common quaking fl.	
3	4 31	7 23	7 46	4 1	30.15	29.80	59	45	52.0	.00	Horse chesnut fl.	
4	4 29	7 24	9 2	4 39	29.78	29.67	78	50	64.0	.12	Great plainain fl.	
5	4 27	7 26	10 12	5 24	29.93	29.92	79	52	65.5	.00	Honeysuckle fl.	
6	4 25	7 28	11 9	6 22	30.04	29.89	84	52	68.0	.46	Toad flax fl.	
7	4 24	7 29	11 54	7 31	29.92	29.73	61	44	52.5	.80	Mountain-ash fl.	
8	4 22	7 31	Morn.	8 49	29.89	29.78	65	43	54.0	.60	Laburnum fl.	
9	4 20	7 32	0 31	10 6	29.64	29.48	64	44	54.0	.31	Walnut fl.	
10	4 18	7 34	0 59	11 27	29.63	29.58	65	40	52.5	.10	Wild mustard fl.	
11	4 17	7 36	1 22	After.	29.69	29.59	62	43	52.5	.04	White lily fl.	
12	4 15	7 37	1 45	2 0	29.87	29.57	61	39	50.0	.00	Red clover fl.	
13	4 14	7 39	2 6	3 13	29.86	29.84	61	33	47.0	.00	Black vetch fl.	
14	4 12	7 40	2 28	4 26	29.87	29.85	57	42	49.5	.13	Columbine fl.	
15	4 11	7 42	2 51	5 36	29.89	29.76	60	46	53.0	.46	Lily of the valley fl.	
16	4 9	7 43	3 17	6 46	29.91	29.81	67	40	53.5	.00	Sweet vernal grass fl.	
17	4 8	7 45	3 48	7 51	30.10	30.04	76	41	58.5	.00	Fleawort fl.	
18	4 6	7 46	4 26	8 49	30.11	30.01	80	42	61.0	.00	Peony fl.	
19	4 5	7 47	5 11	9 39	30.05	29.88	80	40	60.0	.00	Soft brome-grass fl.	
20	4 4	7 49	6 2 10	21	29.77	29.61	70	41	55.5	.00	Monkshood fl.	
21	4 2	7 50	6 59	10 55	29.65	29.53	63	35	49.0	.18	Mulberry foliates	
22	4 1	7 52	8 1 11	24	29.75	29.49	65	47	56.0	.02	White clover fl.	
23	4 0	7 53	9 5 11	48	29.76	29.73	66	47	56.5	.04	Herb Bennett fl.	
24	59	7 54	10 10	Morn.	29.93	20.89	69	40	54.5	.00	Meadow orchids fl.	
25	3 58	7 56	11 16	0 10	30.05	29.92	67	33	50.0	.00	Mignonette fl.	
26	3 56	7 57	After.	0 31	30.11	30.00	72	48	60.0	.01	Common sorrel fl.	
27	3 55	7 58	1 33	0 49	29.90	29.83	66	52	59.0	.09	Ox-eye daisy fl.	
28	3 54	7 59	2 47	1 10	29.86	29.83	72	52	62.0	.01	Herb Robert fl.	
29	3 53	8 1	4 3 1	33	29.87	29.64	73	54	63.5	.00	Ragged Robin fl.	
30	3 52	8 2	5 20	1 58	29.67	29.42	68	52	60.0	.15	Foxglove fl.	
31	3 52	8 3	6 37	2 31	29.94	29.82	76	43	59.5	.02	Figwort fl.	

THE GARDEN GUIDE FOR MAY.

KITCHEN GARDEN.—High culture should be aimed at now with all vegetable crops, frequent stirrings between the rows with the hoe to keep down weeds, and abundant supplies of water and liquid manure. It is hardly possible to give too much water, and in exposed situations and on thin soils grass mowings should be used as a mulch to keep the ground moist, but should be examined occasionally to guard against it becoming a harbour for slugs. Put sticks to rows of peas as soon as they require it; well bank up those that are forward. Thin par-nips and carrots to eight inches apart, and go on transplanting from seed-beds as fast as the plants are large enough to handle, leaving the smallest

to get stronger before moving them. Choose showery weather, if possible, for transplanting, or else give shade for a few days, and gentle watering. Flat-hoe potatoes, and draw but little earth to their stems; the old method of moulding them up has proved to be of no benefit at all, rather an injury, as the heat of the sun cannot have too ready an access to the roots. Thin out celery, and make up small beds for the plants on very rich, hard ground. Trenches should now be made for celery, and six inches of rotten dung forked into the bottom of each. A dull or showery day should be chosen to put out the plants, and plenty of water given during dry weather. Look to seed-beds, and trans-

plant; well hoe and clear the ground as may be necessary. The use of liquid manure and frequent stirring of the ground between growing crops will hasten and improve the growth of all things.

Sow beans and peas for succession, savoy for late crop; cabbage, broccoli, kale, beet-root, kidney-beans, both runners and dwarfs, lettuces, spinach, turnips, cucumbers, and marrows may now be sown in the open ground for a late supply.

FLOWER GARDEN.—We would advise those who have not had much experience in bedding, to defer the putting out of their stock till towards the end of the month. There is nothing gained by the attempt to save a week, for we frequently have bitter nights, and north-east winds, even till the last week of May. The middle of the month is the earliest time at which we would put out bedding stock anywhere near London, or in the Midland Counties; farther north we would wait till another fifteen days, but in the south they are always in advance of us Londoners. Successional sowings should be made of all hardy annuals that may be required to succeed those sown in March, and tender kinds, such as asters, zinnias, etc., may now be sown in the open ground. This is a good time to sow hardy and half-hardy perennials of all kinds, to get strong plants for winter, either to remain out, or have the protection of a frame, or to take up and pot for early blooming in the greenhouse. Lovers of the Chinese primula should sow now for the next spring. Late planted roses should have plenty of water, and the surface mulched, and similar treatment given to hollyhocks and chrysanthemums put out last month. Carnations and picotees should be staked without delay, and their shoots thinned. Part and plant polyanthus and primroses that have done blooming, and give them a rich loam and a shady aspect. Where it is intended to have new gravel, it would be advisable to defer it till the beds are filled, and the whole garden acquiring its full summer gaiety, a coating of fresh gravel then will add much to its fresh and bright appearance. Roll and mow grass turf frequently, to promote a fine close growth. Any watering of plants in the open ground should be done in the morning now, as the nights are often very cold.

GREENHOUSE.—Hard-wooded plants will want plenty of air, and specimen plants in flower must have shade. Allow nothing to form seed, unless seed be specially desired. Cut back all kinds of shrubs that are out of shape, and keep them rather close afterwards, to get good breaks, so as to bring them into decent shape, and get the

wood well ripened for next year's bloom. Where plants are crowded, many may be removed to frames, so as to allow of a freer circulation of air. Shift, stop, and tie out all soft-wooded plants that are advancing in growth; but if required to bloom shortly, they must not be disturbed, merely kept in shape, and have plenty of water and free ventilation. Continue to strike bedding stock for late blooming. Fuchsias, geraniums, verbenas, and petunias make beautiful specimens for pot blooming in the autumn, if struck now and kept regularly stopped till July. They should not have a high temperature, fuchsias especially, which like shade and moisture. Cinerarias done blooming should be cut down and planted in rich soil, in a cold frame, to furnish offsets for potting. Camellias and azaleas that have made their young shoots should have a little more ventilation to prepare them to go into the open air next month to ripen their wood. All growing plants, and especially hard-wooded ones, must be regularly stopped, and have plenty of air, to insure a sturdy short-jointed growth, and tiffany, or the canvas called "strainer," put up inside the house, where moderate shading may be necessary. Pelargoniums out of bloom to be cut in and allowed to break before repotting them, and the syringe and fumigator kept in use, as may be necessary, to destroy red spider and green-fly. Fire-heat should be dispensed with as much as possible, preparatory to clearing and cleaning out the house.

STOVE.—Pines must be shaded on bright days, and the soil about them kept regularly moist, and liquid manure used frequently. Suckers should be removed as soon as they make their appearance, except so far as they may be required for stock. Queens never produce good fruit unless the suckers are removed early. Young pines, for winter fruiting, should be in a rather light soil, to prevent excess of moisture from stagnating about them. Vines that have their roots in inside borders should be liberally supplied with water, and the shoots should be tied in, in good time. Vines in pots will require frequent supplies of liquid manure, and stopping of laterals must be attended to, to regulate the growth. Red spider must be kept in check by the use of sulphur, and the best method of using it is to paint the pipes with a mixture of sulphur, lime, soot, and water. Go over the bunches occasionally, and thin them regularly, to promote their beauty and the size of the berries. Melons just planted must be kept close and warm till the roots get to work, and then a short-jointed growth should be encouraged by

moderate ventilation and abundance of light. Stove climbers now want plenty of room, and liberal culture; the syringe will do wonders to keep down vermin. Average temperature for pines 75° at night, 85° to 90° by day; for general collections, 65° to 70° at night, and 75° to 85° by day.

ANNUALS are held in light estimation because people do not really cultivate them. Thin out the patches and top the branching kinds, and they will bloom so vigorously as to be altogether unlike the crowded spindling things on which people vent their abuse. Quick flowering annuals sown in shady places at the end of the month or early in June, will come into flower for succession to those that are exhausted, and prove of great service.

BEDDING PLANTS to be kept growing till of sufficient size for hardening off, and fresh cuttings put in of those of which the stocks are short. Sorts that are in a fit state for turning out to be carefully hardened first, as any severe and sudden check will put them back tremendously. Place them in cold pits first and shade from mid-day sun, and cover up at night. By degrees, let them have full exposure, and to be left uncovered night and day before turning out. Plants purchased from nurseries generally require careful hardening, owing to their having been pushed rather fast. In selecting at nurseries, prefer plants from open frames if you can get them. If dahlias are turned out early, they must be protected at night with inverted flower-pots with the holes stopped, and by bell-glasses during the day, should the weather be wet and cold. The 15th is quite early enough to begin to turn out dahlias. Put the stakes to them at once. Take cuttings of everything that is wanted to bloom late in the season, and for next year's stock. Verbenas and petunias struck now in a brisk heat will bloom well at the end of July.

Ridge Cucumbers and Marrows.—Marrows, cucumbers, and melons may still be sown; the latter require the most heat, and cannot be well fruited unless they can enjoy a temperature of 70° to 80°, and five more degrees of bottom-heat. Pumpkins and gourds of all kinds, as well as Stockwood, Southgate, and short prickly cucumbers, may be grown to great perfection in the open air, by starting the seeds in a gentle heat, and when the plants have formed their rough leaves turning them out on a bed of dung or loam well enriched, and giving them the protection of hand-glasses for the first fortnight. Those who have no hand-glasses, should protect them every night till June, by turning over each plant

a flower-pot with the hole stopped. Ridge cucumbers bear well and give little trouble; the simplest way of growing them is to cut a trench three feet wide and two feet deep, and fill this with any littersy rubbish in a fermenting state; long, half-fermented dung is, of course, the best. Soil it over nine inches deep with the stuff that was taken out, and then sow in patches of three seeds, eighteen inches apart. Pots or hand-glasses should be put over each patch of seed, till they come up, when they should have air by degrees, and protection against night frosts, and to be thinned to the strongest plant in each patch, as soon as they have made their rough leaves. Cucumbers and gourds should not be stopped, but allowed to ramble as they will, either on the ground or a rough trellis. They should have abundance of manure water in dry weather, and the fruit cut as fast as it is ready, as, if one is left to ripen, the vines cease to be prolific.

Auriculas.—Pick off the seed-vessels as fast as the plants go out of flower, but do not cut down the flower-stalk. When done blooming, place the pot on a pavement of tiles out of doors, and let them have air and showers. But very heavy showers must be kept off by means of a spare light or a few boards, to be removed as soon as the storm is over. Any infested with fly, smoke well before turning out.

Camellias.—Keep very moist and syringe the foliage frequently. Warmth and shade are essential to the free growth they should now make preparatory to being turned out to ripen their wood.

Cinerarias.—These are now in their full beauty, and should have shade during mid-day hours. Give plenty of water, with liquid manure, once or twice a week. As they go out of bloom, cut down and remove to a shady place, and earth up with sandy soil to promote the formation of roots by the suckers. Take these off when rooted, and pot singly and place in frames, and shade for a week.

Beet of the first sowing to be thinned to one foot apart as soon as large enough. From the 7th to the 14th is early enough to sow for a crop of moderate-sized roots to store for winter.

Broccoli.—Sow the second week, both early and late sorts, not forgetting Snow's Winter White and Lee's New Sprouting.

Capsicums and Tomatoes may be turned out on warm borders towards the end of the month, but there will be nothing gained by over haste. Tomatoes planted against hot walls should be covered every night till the first week in June.

Cauliflowers.—Give manure water to the

forwardest to produce large heads. Sow for the autumn supply.

Celery.—In pricking out, choose a hard bottom for the bed, on which lay four inches of rotten dung, and two inches of light rich soil. Handle the plants tenderly, water lightly and regularly, and keep the lights over till they look brisk and growing. They will lift from such a bed with vigorous roots, and at the first planting out, choose the forwardest plants and let the others remain for the next set of trenches.

Chrysanthemums make nice plants for ordinary purposes from May cuttings, and better without than with bottom-heat.

Cucumbers in Frames will require plenty of air and a brisk bottom-heat. Re-line the beds where necessary. Train and thin the shoots. After lining, give plenty of water round the insides of the frames. Sow or strike cuttings for succession. Ridge cucumbers to be planted out under hand-lights or trenches two and a-half feet wide and one foot deep, filled with dung twice round to a foot above the level. The dung should not be soiled over for a few days after making the bed.

Cuttings of all the bedders should be taken as far as they can be spared, either by bushy plants, or to stop leaders of those that ought to be bushy. Always allow the plants cut from to break before disturbing them at the root, as one check is sufficient at a time. Hardly spring flowering plants may be propagated from cuttings as soon as they have flowered, and a stock of Alyssum, Arabis, double Wales, etc., got up very quickly and with less trouble than by sowing seeds.

Dahlias should never go out till quite strong, unless to be protected every night with inverted flower-pots, each pot to be covered with a mat. Dahlias should be potted in rich stuff, to insure strong plants, before planting out, and be gradually hardened. Cuttings put in now will root in a few days, so that sorts of which the stock is small may soon be secured.

Edgings newly formed to be watered in dry weather. *Saxifraga Icelandica* makes a beautiful bright green edging for a close line.

Fuchsias for exhibition to have frequent and regular attention, the growth to be symmetrical, plants never to lack moisture; not much sun. Bedding fuchsias are best from cuttings of the season, the old stools to be thrown away. Make the beds deep and rich with plenty of old dung and good leaf-mould.

Geraniums struck now will make fine plants to bloom from July to November.

Cuttings of *geraniums* should now be inserted singly in thumb pots, so as to be ready for shifting to 60's without injury to the roots as soon as large enough.

Potatoes.—Hoe between the rows as soon as the plants appear, and hoe frequently irrespective of weeds and moulding up. If planted deep enough in the first instance, we consider further moulding an injury to them.

FRUIT GARDEN.—Plums and pears, and indeed all bush and pyramid fruits, will want pinching in to the third or fourth leaf from the base. Where large crops of fruit are set, thin severely, but not all at once, as the more fruit the poorer will its quality be. Give strawberries plenty of water. If raspberries have not been mulched give them at once a top-dressing of half-rotten dung. Do not dig it in.

Hyacinths to be kept green until they have completed their growth. If carelessly turned out from pots and glasses, the hot sun and dry winds will all but kill them. They really want kindness, and it is best to turn them out with great care in a bed of rich sandy soil in a frame, and keep them rather close until the foliage begins to turn yellow; then expose them to the full sun to encourage ripening, but do not touch the bulbs for at least a fortnight after the leaves have quite perished. By that time the bulbs will be ripe, and may be cleaned and stored away.

ORCHID HOUSE.—In the Indian and Mexican houses abundant moisture and a liberal temperature may be allowed. By far the greater number of the most valued species derive their chief subsistence from the atmosphere, hence frequent sprinkling of the paths and stages should be practised. Where there are large plants needing abundance of atmospheric moisture, the walls and tables near them should be drenched frequently, and the tanks should be kept full. This treatment will be most needed by *Saccolabiums*, *Vandas*, *Phalæopsis*, *Dendrobiums*, and *Aerides*, which make little progress unless liberally treated. Manage, however, to get the houses rather dry once a day, by means of ventilation, so as, by shutting up and watering, to imitate the natural deposition of dew of the jungles, from which these plants come. When syringing, use a very fine rose to cause the water to fall in a shower. Plants on blocks must be dipped twice a day. Plants recently potted must be kept alive chiefly by means of atmospheric moisture, until established, when they may have dipping and syringing as required. In any case of accident to a plant, cut away at once any bruised leaves.

Plants newly received from abroad, place in damp moss in a warm place until they begin to grow, then pot or block them, and give very little water until they have taken to their stations. These should always have the warmest part of the house and plenty of atmospheric moisture. Plants in flower to be kept cool, and in a dry atmosphere. To prepare them for removal to dwelling-room, where they are always welcome, remove them first to the cool end of the stove, and let them go nearly dry, having only enough water to keep the roots moderately moist. Water should never be thrown upon the blooms of orchids, and as far as possible bees and other insects should not be allowed access to them, as in case of the blossoms being fertilized they soon wither. Temperature of Indian house 65° to 70° by night, 75° to 85° by day. During sunny days the temperature may be allowed to rise to 90°, if the air is saturated with moisture, without harm. We must repeat the advice given last month, to use shading, which may now be kept up for the season.

Orchids that may be in bloom in May.

—*Aerides Fieldingii*, *odoratum cornutum*, *virens*, *virens grandiflora*, *virens superbum*; *Arphophyllum giganteum*; *Brassia maculata major*, *verrucosa*, *Wrayæ*; *Burlingtonia fragrans*; *Calanthe veratrifolia*; *Cattleya amethystoglossa*, *Mossiae*, *citrina*, *Edithiana*, *intermedia violacea*, *lobata*, *quadricolor*, *Skinneri*; *Chysis bractescens*, *Limninghii*; *Coryanthes macranthus speciosa*; *Cypripedium caudatum*, *caudatum roseum*, *hirsutissimum*, *villosum*; *Dendrobium crepidatum*, *Dalhousianum*, *densiflorum*, *densiflorum album*, *Devonianum*, *Falconerii*, *Farmerii*, *fimbriatum*, *longicornum majus*, *transparens*, *tortile*; *Epidendrum aurantiacum*, *bicornutum*, *cinnabarinum*, *crassifolium*, *Hanburyanum*, *macrochilum*, *macrochilum roseum*; *Lælia grandis*, *purpurata*, *purpurata var. Williamsii*, *Schilleriana*, *superbiens*, *xanthina*; *Leptotes serrulata*; *Odontoglossum ampliatum majus*, *bifolium*, *phymatochilum*, *sessile*, *sphacelatum majus*; *Phajus Wallichii*; *Saccolabium ampullaceum*, *curvifolium*, *guttatum*, *præmorsum*, *retusum*; *Schomburgkia tibicina*; *Trichopilia coccinea*, *crispa*; *Vanda cristata*, *Lowii*.

TO CORRESPONDENTS.

EXHIBITIONS DURING MAY.—Messrs. E. G. Henderson, of Wellington Road, St. John's Wood, invite the public to inspect a grand show of early tulips, now in full bloom. We have seen the beds, and can assure our readers it will repay not only Londoners to pay a visit, but those who invest the cost of railway fare for a visit will have no reason to regret it, for it is probably the best exhibition of the kind in the country, and comprises all the best varieties known both of single and double tulips, and of the most valuable of true species, such as *persicum*, etc. On the 5th there will be an exhibition of sculpture at the Royal Horticultural Gardens, South Kensington; 21st, Royal Oxfordshire; 23rd, Crystal Palace, flowers and fruit; 27th, Royal Horticultural, first great show; 27th, Lincoln; 30th, Northern Counties Tulip Society, and exhibition of Pansies, Mechanics' Institute, Manchester.

CATALOGUES RECEIVED.—"Toole and Co., Westmoreland Street, Westmoreland Buildings, and 1 and 2, College Street, Dublin, Spring Catalogue and Amateur's Guide." This book contains an almanack, interleaved with plain paper for memoranda, which will make it useful.—"Peter Lawson and Son, Edinburgh and London; London house, 28,

King Street, Cheapside, List of Agricultural Seeds." Contains everything likely to be required by the farmer.—"John Dobson and Sons, Woodlands Nursery, Isleworth, and London Road, Hounslow, Descriptive List of New Pelargoniums, Cinerarias, Verbenas, Fuchsias, etc." A good list, with a number of fine new varieties, which would prove a desirable addition to the garden and greenhouse.—"George Rawlins, 21, Globe Road, Bethnal Green, Descriptive Catalogue of Dahlias." On this sheet there are 181 varieties, which will prove sufficient for everybody.—"William Holmes, Nursery, Well Street, Hackney, N.E., Descriptive Catalogue of Chrysanthemums, Dahlias, Fuchsias, Verbenas, Geraniums, etc." Besides containing unexceptionable lists of the above plants, there are excellent directions for growing the chrysanthemum for exhibition.—"B. J. Edwards, 222, Strand, near Temple Bar, London, Spring Catalogue of Choice Flower and Vegetable Seeds." A substantial list of requisites for the Kitchen and Flower Garden.—"Timothy Bridgen, F.R.H.S., 52, King William Street, City, Catalogue of Garden Seeds." Amateurs may be here spared the trouble of making their own selections, by choosing from a number of various-priced col-

lections, adapted for different sized gardens.—“Henry N. Bransby, Corn Market and High Street, Alton, Spring Catalogue of Select Vegetable and Flower Seeds.” A small list of good sorts.—“Insecticide Vicat, prospectus.” This powder is the best thing of the kind known for destroying insects. We have often used it with invariable success.—“Luxcombe, Pince and Co., Exeter Nursery, Exeter, Descriptive Catalogue of Roses, Soft-wooded, Bedding, and other Plants.” There are here some very beautiful novelties, likely to become great favourites.—“Alexander Shanks and Son, Dens Iron Works, Arbroath, and 27, Leadenhall Street, London, E.C., Illustrated Catalogue of Iron Horticultural Buildings, Lawn Mowing Machines, and other Garden Manufactures.” Will well repay the attention of those who contemplate building.—“George Walker Dixon, 48A, Moorgate Street, London, E.C., Catalogue of Seeds.” A good catalogue, both for the garden and farm.—“Frederick Boshell, 86, High Street, Borough, S.E., Descriptive Catalogue of Dahlias.” Contains all the good old varieties, with a great many new ones.

A VILLAGE IN DISMAY.—Noticing the courteous replies to inquiring correspondents, in your valued periodical, as one of its many attractive features, I beg for the first time to trouble you with a query, the solution of which, for our benefit, will confer a very large amount of happiness to my little circle, who are now perplexed, discomfited, and dismayed. Know, then, that to a keen love of the pleasure of gardening, the perusal of your varied works added the desire to unfold and develop the natural taste for its more practical enjoyment; and fortune having favoured me in the happy possession of one of the most picturesque and romantic spots within five miles of the Bank, I am desirous that every feature in it should be religiously cared for and preserved. Now, sir, next to the gloriously open and beautiful view which the spot commands, I was (upon taking possession of this place) more struck with the extraordinary loveliness of a full-grown, exquisitely-shaped, crab-tree, standing in the very centre of the grounds, than with anything else beside or around. Every year during its history (forty years old), even up to 1862, it was one glowing mass of the most gorgeous blossom. Every twig and branch, up to the extreme points, was covered, presenting a sight which no

man living could reveal, and which the entire village turned out to see and admire. You will, I am sure, judge of the deep feelings of dismay and sorrow which presses upon us this year, when I inform you that *not one-twentieth* of this beautiful tree *has any blossom at all*. We are all thunderstruck. The gardener can't account for it, and upon my suggesting it may arise from the immense mass of wood and branch which thickly cross and recross in the tree, he says, “But it has been so ever since I have known it, and it never failed before. If I was to begin to cut, I should never know when to leave off.” Now, sir, if that tree was yours, what would you do with it? I only want it as an ornament; the fruit is worth nothing, Yours ever, *The First Subscriber*. [We can well understand the dismay of the village that your fine tree has not bloomed this year, but your dismay must be almost killing. Our advice is simply that you leave the tree alone. The reason it has not bloomed is that the wood was not well ripened last year. It is in the same case as the rhododendrons, which are everywhere flowerless, through not ripening their growth well last year. Don't attempt to prune it.]

AN OUTBREAK OF VERMIN.—I have a small terrace border (about fifty yards long) which was laid out last year, and in which I planted a line of roses, also a few phloxes and delphiniums. Some insect first ate out the buds from the roses, and even barked the wood for some two inches on each side of the buds, and this it repeated whenever any new buds appeared. When these were all destroyed, it attacked the phloxes and delphiniums, eating into the young shoots and leaf-stalks, and never allowing them to get *three inches* above the ground. In November last I put in other roses, and I find they are likely to share the fate of the last. Can you enlighten me a little as to who my enemy might be, and how I am to get rid of him? I have tried a great number of insect-killing substances without the slightest effect. The border is at the bottom of a piece of ground, which has been lately improved, and which was previously a plantation of old firs.—*J. H. S.* [The common rose-grub mostly eats out the bud, and destroys the bloom, but the barking must be done by the common snail or slug, as they are very apt to do this, and their depredations being committed at night, is the reason you have not been able to discover them. They are, more-

especially fond of delphiniums and phloxes. If you should have occasion again to replant your border, trench two feet deep, digging in a good quantity of rotten dung, and a large dressing of unslacked lime, and you will not be annoyed with such pests for some time to come. To prevent the devastations of aphides, paint every part of the tree, stem and twigs, with strong tobacco-water in January. In pruning your roses cut off every dead snag, however small, as it is in the pith of these snags the eggs of those grubs are deposited, which hatching just as the leaves are developing, make such sad havoc among the queen of flowers.]

DOUBLE PRIMROSE.—Have you ever seen such a primrose, single or double, as the one I inclose a bloom of? I found the plant growing wild. As you may see, it is a true crimson—different from the double one usually sold as crimson, which is really a deep fiery red. Can you inform me how to set about getting a double one from this? I suppose all the doubles have been produced in cultivation from singles found wild like this.—*A. B.* [The primrose is somewhat darker than the generality of dark primroses, and is indeed a beauty. Some five or six years since we recollect meeting with some very dark ones in an embowered nook at Bromley, near Guildford, but not of so rich a maroon as inclosed seems to have been. It is quite worth keeping, and if any flower with six or more segments to the corolla should be discovered, mark such flowers, as they will be the most likely to yield multiple or double flowers. If more than one flower possessing the above characteristics should be discovered, resort to an interchange of pollen between such flowers, and there will be a still greater chance of double flowers. By continuing to sow the seed of any improved variety that may be raised, you may probably in the course of years succeed in raising a perfect double flower. In all processes of this sort it is necessary to bear in mind the adage :—

“If at first you don't succeed,
Try, try, try again.”

BEGONIA FUCHSIOIDES.—*Subscriber.*—It is scarcely possible to succeed to satisfaction with *Begonia Fuchsoides* in a greenhouse. In an intermediate house it may do pretty well, but we will just say how we used to manage it years ago, and we certainly never saw it so fine as we used to have it. Cuttings were put in in April, and grown on liberally all the

summer in the stove, and kept them moving all the next winter, and the following spring until June, when if they had gone on well they were in twelve pots, and fine pyramids six feet high, well furnished with branches from the pot upward. The first week in June they were set in a corner where they were sheltered from the sun and wind on the south and west by a nine foot wall, and from the north and east by a thick shrubbery. Here they remained till the first week in August, when they were set in the greenhouse with gloxinias, achimenes, cockcombs, and other things. In this situation they began to show flower immediately, and before the end of the month they were one mass of bloom, and so remained until the beginning or middle of October, when they were thrown away, as others were coming on for the next season. Our plants were the admiration of every one who saw them. We attributed their abundant flowering to the partial rest they obtained the two months they were out of doors, and the sudden excitement caused by being placed in a large, airy greenhouse, under the grateful shade of vines, which partially covered the roof. We used to treat in the same way very successfully several members of the lovely genus *Æschynanthus*.

RHODODENDRON CILIATUM, ETC.—*Subscriber.*—We have had but one letter of yours, that dated April 2. *Rhododendron ciliatum* is quite hardy, and will grow freely and flower well in a peat-bed in a north aspect. We have had plants of it out six years in a north aspect, and the winter of 1860 did it no harm. It is now in bloom. Messrs. Fraser, of Lea Bridge Road, have a fine form of it called *Rhododendron ciliatum* hybridum, the colour of *dauricum*, with large blossoms, and blooms in February. It will do in a room without a fire; in fact, it hates fire in room or greenhouse. Give it plenty of water till it has formed a close point at the end of every shoot, then less and set it out of doors to harden. We did not get your letter of March 9, so send another cutting of the plant.

CUCUMBERS IN A GREENHOUSE, ETC.—*New Hand.*—To grow cucumbers in a greenhouse use a mixture of turfy loam, leaf-mould, and rotten dung, equal parts; make up a good bed and plant in it. Train the plants a foot from the glass, and stop at every joint above the fruit; that is, where you see fruit rub off the point of the shoot, leaving only one leaf beyond the

fruit. You had better refer to past volumes for management of calceolarias, cinerarias, etc., because, to reply to your queries, would require a treatise, and it is not long since we treated of those subjects. Any box that will hold a bushel of soil will grow a cucumber plant. We have grown cucumbers and melons in a greenhouse to perfection in 15-inch pots. For list of roses see past issues. Your grass will improve after we have had some rain. Roll and mow, and it will soon come right. There is no good melon very hardy; those worth eating require the usual treatment of melons. We can recommend for beginners Boule de Siam and Cantaloupe. Messrs. Carter recommend as very good, and as hardy as ridge cucumbers, a melon called Achapenorricher. The primula can be had of any respectable nurseryman. We object, as a rule, to mention names.

VINES IN GREENHOUSE.—*New Subscriber.*

—Grapes will grow in a house of any pitch. A sharp pitch is best for early grapes, and a low one suits for late grapes. Train one foot from the glass. Bring in the stem wherever it is convenient to do so. The grand thing is to have the roots in a good sunny border. One vine will do for a house of six yards in length, but in the present day most gardeners would prefer to plant three to save time. The plants you name would thrive in the same manner, as the vines will be leafless when light is valuable. "Sanders on the Vine," and "Cuthill on the Cucumber." No good book on the other subject named.

VERBENAS.—*T. L.*—Snowflake for white, Foxhunter for scarlet, Purple King or Andre for purple or blue. You cannot do better than red, white, and blue.

EXHIBITION FLOWERS.—*T. H. Thornton.*

You don't say how many you want of each. Of *Fuchsias*, take Clio, Madame Corneillon, Sir Colin Campbell, British Sailor, General William, Venus de Medici, and Meteor for a centre-piece. Of *Roses*, Jules Margottin, Prince Leon, Madame Vidot, Triomphe de Beaux Artes, Madame Domage, and William Griffith. *Geraniums* (? of what class), take Brilliant, Bijou, Alma, Attraction, Mrs. Pollock, Sunset. *Phlox*, Mrs. Milford, Alba perfecta, Argus, Countess of Home, General Brea, Mrs. Winfield, Admiral Lyons. You should invest a shilling in the "Garden Oracle." You would have a complete summary of the best of the show flowers of all classes. If you cannot get what you want, apply to some of the dealers who advertise in this work.

COCOA NUT DUST.—*M. S.*—This is fit for use the same day as received; the longer it rots the better it is, because more solid, but it matters not how new it is. We have numbers of tropical ferns planted in it when quite new, and they are pictures of health and vigour. It is as good as peat for American plants, will prevent calceolarias dying off, and improve any soil, whether light or heavy, but is invaluable to temper the consistence of a tough clay.

BOTANY.—*Ulmus.*—The best work is "Lindley's Vegetable Kingdom," published at (we think) two guineas. "Bentley's Manual," published by Churchill at 12s. 6d., is a good book, though in many things defective. "Hogg's Vegetable Kingdom" is rubbish. Pardon us for saying that one of the children's books, published by the Society for Promoting Christian Knowledge, is a good preparation for a work of greater pretensions.

CRAB STOCK ROOT.—*A. B.*—Any hard wooded tree may be made to root near the surface by notching and surrounding the notches with cocoa dust, or moss, or leaf-mould. Serve the suckers that way, and they will root well this season. You will never get them away in the roots without such help. If you bank them out of the perpendicular, they will root quicker. Tongue them if you like, but notches will do.

GAS STOVE.—*J. W.*—A gas stove will heat your conservatory satisfactorily if the flame is outside the house, as for instance in a shed adjoining. We do not know either of those you name, but we know that those made by Trotman, New Road, Hammersmith, and Phillips, Snow Hill, answer admirably. If the boiler is of sufficient capacity, and the pipes ditto, there can be no risk about it; in fact, heating with hot water is as easy as boiling a kettle for tea.

GLIANTHUS IN SCOTLAND.—We have here, in the Highlands of Dumbartonshire, a clianthus against the house, which has stood out four years, and blossoms beautifully; it is now covered with branches of bloom, and has only had a mat over it one night during the last winter. I have another climbing over the spandrils of the conservatory, thirty feet high, and now in profuse blossom. I send this as a set-off to your notes on winter gardening in Devonshire.—*F. Flemyng, Helensburgh.* [And a good set-off too. We should like to hear from the Rev. F. Flemyng about other choice things

growing out of doors in the heights of Dumbarton.]

TO EVERYBODY IN GENERAL, AND NOBODY IN PARTICULAR. — We receive a great many orders for seeds and plants, none of which are ever executed, for the simple reason that we do not sell plants or seeds. We are also frequently requested to give the names of dealers who can supply certain articles. These requests we cannot comply with, because it would be unfair to name A if B, C, and D, and all the rest of the alphabet, can also supply the same things at the same price, and equally good. If we were to name dealers, we should soon be at the seat of war, for we should sit on a hornet's nest instead of filling with proper dignity our editorial chair. We do name dealers sometimes, but only for special reasons, as when B or C have a plant that will grow up a chimney or down a waterspout, or twine round the heart of a fair maiden in the form of a true lover's knot, then it is fair to give publicity to the name of the happy possessor. But to make an end of difficulties of this kind, we are willing to view estates and advise on planning and planting and improving them; but we do not seek engagements of the kind, having all our irons in the fire, poker, tongs, and all, and our fingers smeared with chalk for fear of burning them. We never did sell plants, and never will, while we are responsible before the public for opinions concerning them. Our only customer for offcastings of the garden is the muck-pit. We do not even give away anything that can be bought; so, when we offer our friends a pinch of seed or a bunch of cuttings, it is of something otherwise unattainable, and therefore of priceless value.

VARIOUS.—A. B.—Your shrub is *Kerria Japonica*, one of the most useful of hardy plants for walls. At Stoke Newington it has been in bloom since the end of March.—M. M. T., *Ballymogen*.—No. 1, a seedling *Lastrea filix mas.*; 2, apparently an attenuated frond of *Athyrium filix femina*. The other is *Selaginella denticulata*.—No signature.—The blue flower is *Plumbago Larpentæ*, on which you will find cultural notes in former volumes; it is nearly or quite hardy, and may be turned out for the summer. We have had it out on rockeries several winters in succession near London, where it dies down, and comes up again in spring.

In Devon and Cornwall it is green all winter. It is most beautiful when it acquires some size. The fern is *Polypodium vulgare*, quite hardy. *Mimulus cupreus* requires the same treatment as the hardier kinds of *mimulus*, a moist soil and shady position. *Arctotis grandiflora* is unfortunately rather tender. Plant it out in the sunniest spot you have, and take up in October and treat the same as a verbena. Cuttings should be struck in August for the next season's bloom.—A. B.—Chalk may be made into lime by heating it red hot.—PLANTING A BANK.—W. R. For so limited a space you cannot do better than have a selection of hollies. Go to a nursery and pick them out as they please you by their looks. Now is a good time to plant them. For the bank, purple-leaved *Berberis vulgaris*, Venetian sumach, common sumach, silver birch, aspen, *Weigelia rosea*, *Acer negundo*, purple beech, American willow, cut-leaved alder, holly-leaved oak, common daphne, quince, Black Jack oak, Persian lilac, laburnum, variegated-leaved lime and sycamore, snowy *Mespilus*, liquidambar, arbor vita, juniper, aucuba, *Spergula pilifera* will be fine on the slope. On the wall, Morello cherry, Jefferson's plum, and Thompson's pear.—W. W. C.—We do not know any of those you name, but we will look at the catalogues, and, if possible, reply next month.

NEW BOOKS.—*The Rose Garden*, by WILLIAM PAUL.—This is a reprint with improvements, but without coloured pictures, and published at a reduced price, of Mr. Paul's admirable work on roses. Lovers of the "Queen of Flowers" will of necessity add this to their libraries, if they do not possess it already, and we heartily recommend it.—*The Gardener's Annual for 1863*, edited by the Rev. S. R. HOLE.—This new venture will doubtless take a good place among horticultural year books. It has come to us late in the season for annuals, but better late than never, for it is good of its kind, and elegantly got up. The papers on trees by Mr. Rivers, on roses by the editor, Japanese plants by Mr. Standish, and the lists of select flowers are well worth the price of the whole book. We had put in type Mr. Paul's paper on hollyhocks, but were compelled to omit it for want of room. It shall appear next month.

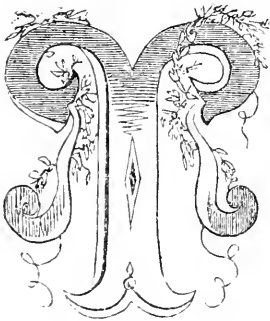
THE
FLORAL WORLD

AND

GARDEN GUIDE.

JUNE, 1863.

THE MIMULUS AND ITS CULTURE.



HE well-known monkey-flower is entitled to much more attention than is usually bestowed upon it by amateur florists, both as a useful decorative plant and as a good subject for exhibition. It has been declining in popularity of late years, owing probably to the increased attention paid to what are called "bedding plants," which absorb so much of the money and time of the present race of gardeners. But it has a sufficient number of admirers to entitle it to be called a garden favourite, and is highly

prized by nurserymen who grow for market, as from its rapidity of growth and profusion of bloom, it makes a good return upon outlay. The name is said to be from "Mimo," an ape, bestowed upon it because of the ringent or gaping mouth of the flower. The merest novice in botany will, at the first glance, discover that the *Mimulus* belongs to the natural order *Scrophulariaceæ*, or Figworts, in which are grouped the pentstemon, calceolaria, antirrhinum, and other flowers similarly constructed. There are many useful species, and a few good varieties which it will be desirable to enumerate, and in naming them we shall add a few words on culture.

HARDY SPECIES.—*M. rivularis* is the best of these. It makes a brilliant display of golden yellow flowers during June and July. Once planted on damp loam it will spread to a larger patch every year, and acquire a most important character in the decoration of the garden. At the foot of a rockery or in the common border, it is quite at home. As it dies down in autumn, the ground where it is planted should not be disturbed.

Glabratus, yellow; *guttatus*, spotted; *ringens*, blue; and *propinquans*, yellow, are all useful for the border and damp parts of rockeries. *M. moschatus*, the "musk mimulus," is very hardy as an annual, usually

appearing plentifully in places where it was planted out the previous year from self-sown seeds. But in mild winters the roots also survive and throw up shoots in spring. The best way to grow musk is as a frame plant. The soil should be light and rich, and the pots in which the plants have grown should be put aside, so as to be safe from frost, and kept moist till next spring. Then as soon as they begin to sprout, divide them and pot separate small pieces in fresh soil, in small pots, and place on a gentle bottom-heat, or in a warm corner of the greenhouse. They will soon fill the pots with roots, and must never be shifted. By liberal culture musk may be grown to a height of three or four feet, and be one mass of bloom the whole season. It may be trained upright by means of a few light stakes put round the pot, and connected with strands of bass all round, or if planted in a basket, may be allowed to hang down in festoons. The great secret of growing fine specimens is to use a rich soil, shade moderately, and give abundance of water.

CULTURE OF GREENHOUSE SPECIES AND VARIETIES.—They may all be treated as annuals if sown early on a moderate hot-bed, and as soon as up pricked out in rich light soil, and grown on in good greenhouse temperature. For a good bloom the same season, the latest time for sowing is the last week in February. As soon as the seedlings have made a good start after being potted singly in thumbs, give them rather more water than would be safe to the generality of plants in so young a state, and shift on as fast as they fill the pots with roots. When they are in 48-sized pots, place a saucer under each, and let that saucer be always full of water. They will drink it up and thirst for more, and grow with great luxuriance and make fine flowers. They will need shading when in bloom, and plenty of air, in fact, they may be treated nearly the same as herbaceous calceolarias from first to last, but must have more water. As the stems are very soft, and the flowers heavy, they must be neatly staked before they get untidy. As it is advisable to render the supports as nearly as possible invisible, neat painted sticks should be used. We have been accustomed to use lengths of No. 1 iron wire, painted a light green, for this purpose, and found them preferable to wood. When the plants are in bloom, any of superior excellence should be marked with tallies to propagate from. During August and September, take cuttings of three joints each, place half a dozen of these round a 48 pot in a compost of half leaf-mould and half loam, with an addition of silver sand, sufficient to render the mixture light and friable. Plunge these pots in a gentle heat and keep close till rooted, which will be in about fifteen days, then pot singly in 60-sized pots, and in these pots winter them. When grown in quantity they are usually wintered in the cutting pots, and have a shift at the end of February or early in March, into 32-sized pots well drained and filled with a mixture of leaf-mould, turfy loam, and rotten dung equal parts. At the end of April or early in May these may be again shifted in pots of 12-size, in which to bloom. They will require abundance of water, and may have saucers to keep the roots constantly in action. Any required extra fine for exhibition, should have liquid manure once a week, but without this help the plants will flower finely if grown as otherwise directed. Of course the cultivator may shift on seedlings to the same size pots as plants from cuttings, but generally it is best to flower seedlings in 48-size, and grow into specimens only selected varieties known to be worth extra culture.

PROPERTIES AND HYBRIDIZING.—The attention of the cultivator should be chiefly directed to the *form* of the flower; in habit and colour it can scarcely be improved. Flowers that collapse are not worth growing, however fine their colours, except it be to furnish pollen for hybridizing flowers of good shape. The broader the segments and the smoother the edges, the higher will the flower rank in the eye of the florist, and deservedly so. In selecting varieties to propagate from cuttings, or to produce seed, give the preference to those that exhibit an expanded flat surface with small spaces between the petals. As regards colours, these should be bright and decided; the markings sharp on clear grounds; yellow is the most common hue, and white the most rare. In every endeavour to improve the mimulus, the hybridizer should select for the seedling flowers those that have thick broad petals, and that most nearly approach a circular outline, and for pollen, flowers that are the most brilliantly and regularly coloured; if the pollen flower is also well formed there is the greater chance of a pod of seed worth saving.

GREENHOUSE SPECIES AND VARIETIES.—*M. cardinalis* is the parent of the best show varieties we possess. The original species grows to a height of two feet, and produces fine scarlet flowers. Seedlings vary to all the shades of rose, ruby, maroon, pink, and crimson, and if crossed with *roseus*, *Smithii*, and *variegatus*, some very showy strains may be secured. *Cardinalis* is a native of California, and was introduced in 1835. *M. roseus* has small flowers of regular shape, with yellow throat and bright rose petals, it is one of the most beautiful in cultivation. Mr. Douglas sent seeds of this to England from North California in 1831, and it was first flowered in the gardens of the Horticultural Society. This is strictly a perennial, and is not so easily cultivated as most others of the genus. The best method of treatment is to keep it constantly in the frame or greenhouse, potted in turfy loam three parts, sandy peat one part, and leaf-mould one part, and the pot always in a pan of water except during cold winter weather. It is easily increased by cuttings and occasionally ripens seeds. *M. variegatus* is a native of Chili, introduced by the Messrs. Loddiges. This is described in some works as white and rose, but this is not correct. The throat is a pale canary, and the segments of the flower are deeply tipped with rosy purple, the remaining parts being a rich gold yellow. This species seeds freely, and is not at all difficult to cultivate. *M. glutinosus* is now a rare plant. It is the most shrubby of all, and well worth recovering for crossing with good varieties of weak habit. *Smithii* is a fine hybrid raised some years ago by Mr. George Smith from *rivularis* as the male parent and *variegatus* as the female. The flower is large, the ground colour orange yellow, at the tip of each petal is a large brownish, crimson blotch, and there are small spots of the same around the throat.

Twelve Finest Exhibition Varieties (Downie, Laird, and Lang).—Alexander Haig, light lemon, dark maroon margin; Duncroft Beauty, white with crimson blotches; Distinctus, lemon, deep crimson margin; Grand Sultan, pure white throat, black margin; Lydia, bright yellow and crimson; Magniflora, white and cherry; Mrs. Dickson, yellow, crimson blotches; Mrs. E. Lockart, white and maroon; Raphael, pure gold margin and deep claret; Spotted Gem, gold and maroon; Sultan, yellow and purple; Symmetry, straw, spotted with cherry red.

MIMULUS FOR BEDDING.—All the hybrids are adapted for bedding, and, as a matter of course, the dwarfest are most easily managed. On

hot dry soils they are useless; the foliage loses its proper colour, and the plants are eaten up with red spider; but on a cool, moist loam and in damp places, where many kinds of bedders would be unhappy, the mimulus is quite at home. When any selected hybrids are grown for bedding, they may be kept in their cutting pots till May, and then be turned out and sheltered from the sun, and kept well watered till rooted; generally the colours come much finer out of doors than under glass, this is especially the case with *rivularis*, which is a charming plant for a mass, but unfortunately fugacious. Good beds may be made of seedling plants from February sowings, but there will be no uniformity of colouring. *Floribundus*, *parviflorus*, and *moschatus* make better clumps when grown in moist and shady beds of peat, but the last named should be used rather for its odour than its colour; for however profusely it may flower, it is by no means effective in a mass. It is otherwise with *M. cupreus*, which is one of the finest bedding plants we possess. It is perfectly hardy and can be grown from either seeds or cuttings, and requires precisely the same treatment as *Lobelia speciosa*. It grows four to six inches high, and produces a perfect blaze of fiery flowers. A damp shady bed suits it best.

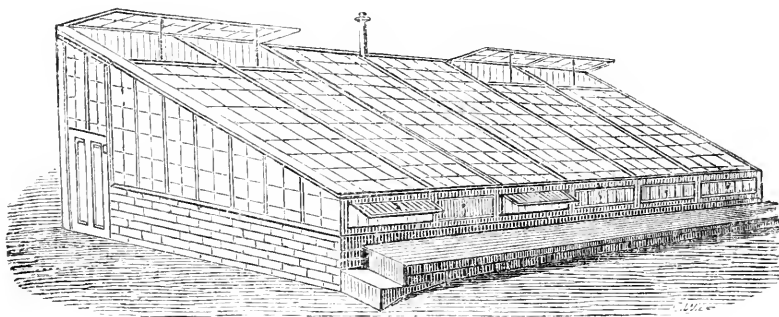
THE LEAN-TO.

WHEN I came to my present garden, I found myself the happy possessor of numerous ready-made rustic scenes. Amongst the number was a ditch, and an old hedge of plum and privet forming the lower boundary, where on sunny days I used to see the robins and the thrushes splash about and play at washing-day, and I could any time dip in a hand-net, and take up a gathering of larvæ of *Culex pipiens*, *Libellulidæ*, *Stratiomys*, *Corethra*, *Phryganea*, and other such people entangled in ropes of *Confervæ*, like antetypes of Leotard, and quite as lively. It was in every way a most beautiful ditch, as dirty, dark, and dangerous as need be, and the haunt of all sorts of curious plants and animals. It has always been my habit, whenever I took my walks abroad, to search out all the ponds and ditches, in the hope of finding something rare, and here I found myself with a ditch all to myself, for the third time in my life, and this the best ditch of any. Of course you will understand that the fall of the ground was towards that ditch, and that its presence was a sort of necessary nuisance to drain the ground, so it was called "*picturesque cum utile*," and marked down in the garden map accordingly. But how restless is the spirit of man. I had not made fifty dips into the lucky bag, that is, into the dirty water, before I began to think it wouldn't pay to keep a ditch on the premises any more than it would answer the old woman whom Daniel O'Connell tormented, to harbour a polygon. We wanted glass, and we wanted more growing-room, and we wanted water. The ditch always offered plenty of the last, but, ugh! if I couldn't drink it, how could the plants? Ditch-water may do for roses and chrysanthemums at the root, but to wash their heads was a business of fetch and carry, so here goes, down with the hedge, and make a glorious bonfire of plum and privet. Dig a well at one end, and with the stuff taken out, fill up the ditch, and next put up a boarded fence to mark the boundary.

There happened to be close by one of those open pear trellises recom-

mended years ago by Mr. Rivers, and capital things those pear trellises are for those who have room for them. But for me, who would grow a thousand fuchsias, geraniums, and what not every year in the space occupied by one trained pear, the trellis was a sheer waste of ground, and so away went the pears from horizontal to perpendicular, to fill an upright open wire trellis next the back walk, and there was a gain thereby of the ten feet lights. So here was a greenhouse almost ready made.

But to lean those lights against such a brown paper fence as we had would have been ridiculous; the north-easters would have shot through the crevices caused by sunshine, and have struck down the plants like so many poisoned arrows. So a lot of cheap second-hand floor boards were purchased, and with these the fence was lined with a two inch space between, and that space was filled with sawdust. Here, then, we have as good as a brick wall, and three coats of paint will make all sound and sweet. Next this wall take out a trench, and throw the stuff forward to form a solid bed. Some more old floor-boards and lengths of quartering make a sound wall on the side of the bank to keep up the stuff, and a bottom of broken bricks rammed in, and with a thin crust of coal-ashes over, will do for the present as a walk. The carpenter makes ready in a trice the right number of studs, and plates, and shutters. Good carpenters are real magicians—prettiest trade under the sun, gardening only excepted—and in very little more time than it has taken me to write thus much, the house was up, and here, as an additional instalment of photographs from my garden, is a view of it:—



You see the ventilation is very simple; there are hanging shutters all along the front, lift-up lights at both ends of the roof, and no lift-up in the centre, because it was found that to cut those lights would spoil them, they were not so substantially made as the others. The last act in the drama was to pave the walk with Yorkshire tiles, and spread over the bed a surface of coal-ashes, and put up a few shelves on the back wall and further end for pots.

Now, I must remind the reader that pictures often fail to show the real excellence of the object figured, and generally in scenery they fall far short of the beauty of the reality. In this case there is an exaggeration comparing the picture with the fact. The picture gives the house a very stately appearance, and, though it is truthful to a hair, yet this house is a low, mean, and almost unsightly structure, for it lies in a hole, and as you go down the garden, you see over the roof into the meadows beyond,

and if you were fastidious about architectural glass, you would not give me a ten-pound note for that house as it is. Why figure it, then? Well, I must repeat that the figure is correct, though the house looks better on paper than on the ground, and next I must say that this is the most extraordinary house I ever knew for plants to grow in. I often think of Jerrold's description of the fertility of America, that if you plant a nail over night, it's a spike next morning, and here I might almost fling in at the doorway an inch piece of a plant, and expect next day to find that that inch had potted itself, and grown during the night to specimen size, training included, and would flower before dinner-time the same day. You see the house is where the ditch used to be, and the walk is not much above the average level of the water in that ditch. A well close beside the door of the house takes the water now, and from that well we pump with one of Dray's liquid manure pumps as much water as we require at that end of the garden, and occasionally have a foot depth of water in the house in winter-time after heavy rains. Then it faces full south, and the boarded wall reflects a great heat, so that by regulating the ventilation judiciously, it can be made as hot as an oven any day from mid-spring to mid-autumn, and it is the sunshine, the heat, and the damp combined that makes it such a place for plants to grow in.

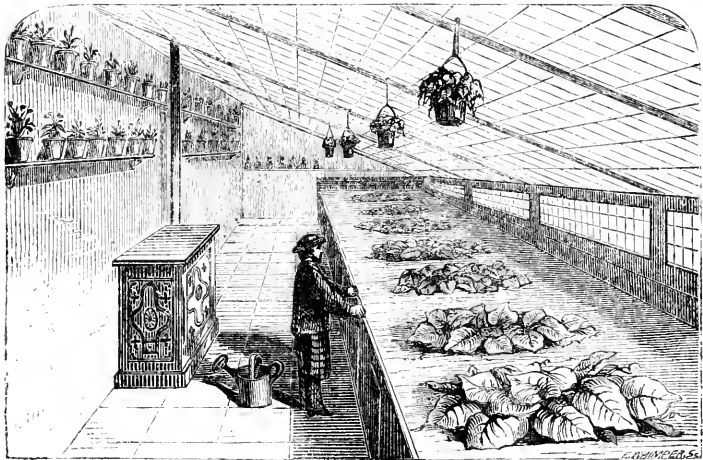
Now that you have an idea of the house, I must tell you how it has been heated during five years past. In the view of the interior you see in the centre one of Musgrave's slow combustion stoves. It was put there in the first instance as a makeshift, to gain time to fix a furnace and hot-water pipes. Some delay occurred, and the stove answered so well that I thought I had best let well alone, and there it remains. The stove stands on the floor. To the smoke outlet is fitted a chimney of 4-inch glazed drain pipes, and this chimney terminates in a mushroom top, which mushroom top is attached to a short length of iron pipe, just of the proper size to drop into the top of the drain-pipe flue, and carry the mushroom with it into its place.

It would be a very long story to tell how the house has been used. Dr. Lindley heard of it some years ago, and sent his factotum to take a survey; it was then choking with bedding-plants, and the factotum happened to call when the ground was covered with snow, and I rather think the roof was so covered with snow that I had to light a candle to enable the commissioner to see the sort of place he had come into. Let me gather a few items, the value of which the reader must appraise for himself. In the winter of 1859, *Justicia carnea*—four fine plants—wintered close beside the stove, and flowered tolerably well. In the same winter, the artillery plant, *Pilea allitrichoides*, wintered safely, and with it geraniums Manglesi, Bijou, Lady Plymouth, Flower of the Day, Dandy, and Golden Chain. I omit the mention of common scarlets, because they can be wintered in any good pit. Any time since the house was built it would keep *Lantanas*, *Heliotropes*, *Cupheas*, *Tropæolums*, variegated *Veronica Andersoni*. Of course all less touchy objects are as comfortable there as need be. During that desperate winter of 1860-61, the damp did more mischief than the frost, and on Christmas night, when the thermometer registered here about 20° of frost, the fire went out through neglect, and a great many plants were killed. But in that winter the losses were not so numerous as in many better built and more pretentious houses, and, generally speaking, the soft-wooded plants suffered least.

But all things considered, this is not a good structure for ordinary greenhouse plants in winter, because of the damp, nor is Musgrave's stove the best apparatus for heating it, because with a fire in a house there must be a certain amount of dust. I should have carried four-inch hot water pipes all round if the stove had never been placed there; but once placed it has remained, and has paid its cost in usefulness every winter since. The proper use of a house of low pitch and in a damp situation like this is for keeping and growing any kinds of plants that are nearly hardy, and for economizing sun-heat during the summer months. Thus when the borders are cleared in autumn, the plants are packed away here as close as can be in sand or coal-ashes on the front bed, and after one watering they want no more till they are taken out in spring to be cut in and potted. By that time the heat of the sun is sufficient to give them a good start, and with a good dung-bed at work close by, an immense amount of stock can be got up in a brief period of time. Hydrangeas, Fuchsias, *Oenotheras*, *Lobelias*, *Gazanias*, and whatever will endure damp and need only moderate protection from frost, can be as well kept and grown here as in the best greenhouse in the land. For instance, specimen fuchsias and small fuchsias for plunging in beds all the summer are now (May 20) showing bloom. They were all repotted at the end of March, and shading was then put up to prevent scorching. So with hydrangeas potted this spring into ten-inch pots; these show on an average a dozen heads of bloom each, and by the time the blooms are fully expanded they will measure three feet across. As soon as these and the specimen fuchsias begin to expand their blooms, which will be in a few days from this time, they will be taken to a house we call "the corner shop," which is, in fact, the show-house, and there they will be gay all the season. I only name these as indications of what may be done in such a house, but I will give one more instance. Last summer my windows were gay with Queen Geraniums, which were the admiration of everybody, from about the first week in June till the end of the season. Those geraniums were all from cuttings put in on the 26th of April that year, and so quickly did they acquire a state of maturity, that I would not risk a record of the feat, except for the fact that the beauty of the plants was a matter of public notoriety, for all the front windows were filled with them, and there are several witnesses to the making of the cuttings on the date just given. It happened thus. On the 26th of April, 1862, I turned out all my Queens, which were huge, bushy plants, crammed into six-inch pots, and planted them in a circle round a bed of rhododendrons. In planting them a great heap of prunings accumulated, for they required cutting into shape to make them uniform. The stoutest and straightest of these prunings were picked out and potted in 60-sized pots, and put on a back shelf of the lean-to. There they had a sprinkle night and morning, and all day were in the full sun, so that the pots got so hot it was scarcely safe to touch them with the hand. In a fortnight they had filled the pots with roots, and were shifted into 48 size with one crock only, and the stuff rammed in hard. That is the way to grow a large plant in a small pot, and have no more shifting all the season. They were returned to the back shelf, and in another fortnight were nearly as bushy and bloomy as the plants they were cut from. Now this only brings us to the 24th of May, and about that date I took my penknife and took out the points of all the shoots that were as long as I needed

them. This mode of stopping was adopted to save all the trusses that were pushing at the tops of the shoots, and at the same time promote a bushy growth below. Another week on the back shelf only brings us to the 1st of June, and the plants were then such as one would jump at for six shillings per dozen.

I must now make a note on the growth of melons. In 1859 the melon plants were got forward in a dung frame, and were placed in a corner of the house as soon as they were established in 48-size pots. At the end of May the house was cleared, and the plants were shifted at once into fifteen-inch pots, well drained, and the soil a mixture of turf, clay, and a little rotten dung, rammed in hard. These pots were stood on the border, two under each light, and the ventilation regulated so as to economize sun-heat, and yet keep the plants sufficiently aired. As soon as the vines began to push beyond the edges of the pots, the pots were banked up with soil, so as to form mounds. This was delayed as long as possible, to get as much sun-heat as possible on the large pots, and by the



time the earthing up took place the sun-heat had increased so as to be sufficient to warm the mounds through. The crop of melons that year was all that could be desired, both in quantity and quality, and as the fruit were all set early, it ripened to perfection, and the flavour of the moscatellos was delicious. When the mounds were cleared away they were found to be full of roots which had worked through the bottoms of the pots, and so into the soil of the borders. In 1860 this method of growing melons was a downright failure; there was no sun-heat, and the crop consisted of a few green fruits that were given to somebody's pigs, and the pigs refused to eat them; therefore for the future the soil will be taken out about a foot deep, and well worked dung will be put in its place and carried nearly up to the under surface of the glass, and on this fermenting material the melons will be planted. By the time they are fruiting the bed will have sunk, and the appearance of the house will be as shown in the view of the interior.

I can make space for only one more note on the use of this lean-to.

It is the best house I have ever yet had in which to grow an early crop of strawberries without fire-heat. There cannot be a simpler method than mine of growing a crop of fine fruit, and having it on the table by the time the out-door plantations are first showing bloom. The moment runners are visible, I go over the ground with a trowel and a barrowful of rotten dung. I choose the plumpest and forwardest of the runners, scoop out from under them a trowelful of soil, and replace with a trowelful of the rotten dung, and either peg them down, or fix them with a stone. They immediately make a ball of roots in the dung. They are then cut off and carried away without breaking a fibre. A lot of seven-inch pots are prepared thus—plenty of drainage, soil to consist of turfy loam, the top crumbs of a bank of clay and rotten dung, and bricks broken to the size of walnuts, equal parts. This mixture is rammed in as hard as a barn floor. A depression is made in the middle to receive the plant, which is filled in with leaf-mould, and pressed firm. They are then placed in a frame, watered, and shut close. After a few days they have air, and in about ten days after potting the lights are taken off. They have plenty of water, and that is all the attention they get. Some time in November or December, according to the state of the weather, they are taken into the house and placed on the front bed, with a large saucer, bottom upwards, under each to prevent the entrance of worms to the pots. They start early, and as soon as they begin to show bloom the saucers are turned over and filled with fresh dung, which is kept always wet. The dung is changed twice while the fruit is swelling, and as these saucers are kept filled with water there is no occasion to use liquid manure, which might do harm in this case, because it requires a long reach of the arm to water the plants next the front shutters, and the liquid manure would be splashed upon the leaves and fruit. But by filling the pans with dung the plants can all be watered overhead with a rose on a long spout, and this process fills the pans and occasions the least amount of trouble. It would pay any connoisseur in strawberries to put up a house of this kind expressly for an early crop of unforced fruit, for fire-heat tells against their flavour considerably, but it matters not how early we get them by sun-heat, because the source of heat is also the source of colour and flavour. This house never looked prettier than it did in the spring of 1859, when the bed was covered with strawberries in seven-inch pots, comprising about fifty of the best varieties, many of which were from runners of the previous year, kindly presented to me by my excellent friend J. S. Hodgkinson, Esq., of Sydenham, and another gentleman who is an old correspondent of the FLORAL WORLD.

SHIRLEY HIBBERD.

FLOWER SHOWS OF APRIL AND MAY.

ROYAL HORTICULTURAL SOCIETY, APRIL 15th.—The plants exhibited at the third spring show were very good; the arcade next the International Exhibition building was all a-blaze with a fine display of azaleas, which were mostly well grown and remarkably full of bloom. Of course these formed the chief feature on the occasion, even the roses becoming quite a secondary consideration. The very best lot of azaleas was a collection of twenty-four from Mr. Charles Turner, of the Royal Nurseries, Slough; some of these were arranged upon a semi-circular stand at the end of the room,

and formed a surprisingly beautiful trophy. In the centre was Iveryana; next it, on either side, Holfordi and Prince Jerome; behind was a fine large plant of Sinensis; at the sides Standard of Perfection and Vesta; while the front line was formed by Criterion, Gem, Perfection (Frost's), Roi Leopold, and Rosy Circle. These were unfortunately excluded from competition through a mistake in the size of the pots. Messrs. Veitch were first in the nurserymen's classes, obtaining first prize in Class 1, for nine azaleas, and in Class 3 for six plants. They were all beautiful specimens, grown in pyramid form, and were a mass of bloom. Messrs. J. Ivery and Son were second in Class 3. Mr. Todman, gardener to R. Hudson, Esq., of Clapham Common, was first in Class 2 for nine azaleas. All his plants were extremely well grown, although not so quite so large as those sent by the nurserymen.

The number of roses present was not large. The best were those of Mr. Turner, who took first prize in Class 4, for six pot roses, which were very charming specimens, with beautiful glossy foliage, and from six to twelve fine blooms on each plant; they were General Jacqueminot, Victor Verdier, Souvenir d'un Ami, Souvenir de la Malmaison, Baronne Prevost, and Coupe de Hebe. Mr. W. Paul was second, and Messrs. Paul and Son third; however, in the class for four pots of roses, Messrs. Paul and Son were first with Victor Verdier, Souvenir d'un Ami, General Jacqueminot, and Belle de Bourg la Reine.

The cinerarias were fine and in good condition; Mr. H. Lamb, gardener to Captain Cahill, taking first prize for six plants, Mr. P. Lamb being second, and Mr. Turner third.

The finest collection of miscellaneous plants were those of Messrs. Veitch and Son, J. and C. Lee, and Mr. Bull, who were each awarded a first prize.

The novelties were numerous, and generally very good. First class certificates were awarded to Messrs. Veitch and Son for Cheilanthes Borbigiana, which is a very minute golden fern, quite a gem in its way; to Mr.

Wm. Paul for a new magnolia called Lenné, a truly remarkable object, the leafless branches bearing huge mauve coloured flowers, looking something like unexpanded tulips of large size; to Messrs. Veitch for Aloeasia zebra, a great beauty, of upright habit, with very large leaves, the leaf-stalks being of a light semi-transparent green, beautifully mottled with dark opaque green; to Mr. Charles Turner for Azalea Louise van Baden, a large flower, and of such a dazzling white, that it must soon become popular; to Mr. Bull for Greenovia, in a five-inch pot, with thick, fleshy, succulent leaves and stem, and a large head of small yellow flowers.

Second class certificates were awarded to Messrs. Veitch and Son for Azalea Madame Verschaffelt, light blush, with dark crimson spots on the upper petals; to Mr. Turner for Auricula Easign, this has a light green edge, and a white eye surrounded by a dark purple band; to Messrs. Ivery and Son for Azalea Beauty of Dorking, white splashed with red.

Commendation was given to Mr. Standish for Kerria Japonica variegata; to Mr. Turner for Auricula Supreme, a fancy pansy, Feu de Joie, and one called Exquisite; to Mr. Bull for Anthurium, sp. S. America; and to Messrs. Veitch and Son for Valdivia Gayana, a small plant with dark green leaves and spikes of crimson flowers.

Mr. Bull obtained a special certificate for three young flowering plants of Bougainvillea speciosa in pots.

ROYAL BOTANIC SOCIETY, APRIL 25TH.—*Azaleas*.—The principal exhibitors were Messrs. Turner and H. Lane and Son, and the winning varieties were Barclayana, Stanleyana, Chelsoni, Model, Gem, Criterion, Holfordi, Conspicua purpurea, Lane's Glory of Berkhamstead, Variegata, Præstantissima, and Reine des Belges.

Roses.—These were the best of the season exhibited up to this time, and formed the chief attraction. They were put up in lots of sixes by Messrs. Wm. Paul, Paul and Son, C. Turner, and H. Lane and Son, and

the following were in splendid condition—Emperor de Maroc, Madame Boll, Anna Alexieff, Souvenir d'un Ami, Paul Ricaut, Charles Lawson, Madame de St. Joseph, Juno, Souvenir de la Reine d'Angleterre, Madame Willermoz, and Madame Cambaceres.

The *Cinerarias* shown by Messrs. H. Lamb, J. Smith, and C. Turner were particularly fine, and a marked improvement upon those of former shows. The best were Adam Bede, Lady Seymour, Modestum, Duke of Cambridge, Queen Victoria, Bridesmaid, Boy in Blue, Decorator, Mr. Dickens, Miss Rosa, Lizzie, Prairie Flower, Slough Rival, Reynolds' Hole, Mrs. Franklin, Great Western, and Miss Burdett Coutts.

Auriculas were shown in large numbers, and were mostly very fine, the principal exhibitor was Mr. C. Turner, of Slough, who sent a splendid lot of sixty. The exhibitors next in rank were Messrs. Cutbush and Son, J. James, F. Potts, and the Rev. H. H. Dombrain. The finest specimens were Meteor Flag, Duke of Cambridge, Lovely Ann, Maggie Lauder, Lancashire Hero, Crucifix, Apollo, Conqueror of Europe, Conspicua, Prince of Wales, Morning Star, Union, and Unique.

Foliage and Flowering Plants were put up in lots of six by Messrs. J. and C. Lee, B. S. Williams, A. Henderson and Co., and Mr. G. Smith, gardener to the Duke of Northumberland. The best specimens of good culture were *Chorozema varium elegans*, *Rhopala magnifica*, *Alocasia metallica*, *Cordyline indivisa*, *Genetyllis tulipifera*, *Kennedyia inophylla floribunda*, *Cyanophyllum magnificum*, *Threophrasta imperialis*, *Gleichenia flabellata*, *Vanda suavis*, *Jacaranda filicifolia*, *Dracæna ferrea*, and *Aphelxiomac purpurea*.

The novelties were but few. *Rhododendron Veitchii*, a very large white flower with wrinkled petals, from Messrs. E. G. Henderson and Son; *Auricula*, the Rev. J. G. Jeanes, bright green edge, white eye, and surrounded by a black ring, from Mr. J. Holland.

ROYAL BOTANIC SOCIETY, MAY

13TH.—This was the first great show and was every way successful, both as the first fête of the season and as exemplifying the present state of horticultural science. The *azuleas* were the principal attraction, and were generally in perfect condition. Messrs. Veitch, Turner, Fraser, and Clark were the chief nurserymen exhibitors, while Messrs. Cross, Page, Kaile, and Green were foremost among the amateurs. The winning plants were Iveryana, Juliana, Magnificans, Barclayana, Exquisita, Fentoni, Arborea purpurea, Criterion, Gem, Optima, Empress Eugenie, Stanleyana, *Late-ritia alba supreme*, Louise Margottin, *Carminata*, Minerva, *Violacea superba*, Chelsoni, Glory of Sunning Hill, The Bride, Mrs. Fry, Broughtoni, Juliana, and Beauty of Reigate.

Pelargoniums.—Mr. Turner came first with show varieties, Messrs. J. and J. Fraser ranking next, after which were Mr. Bailey and Mr. Weir. The successful plants were Sunset, Aerial, Virginie, Rose Celestial, Lila-cina, Picnic, Empress Eugenie, Fairest of the Fair, Candidate, Beadsman, Sir Colin Campbell, Desdemona, Pizarro, Governor-General, Mr. Marnock, Osiris, Leviathan, Peacock, Etna, Scarlet Floribunda, Lady Canning, The Bell, and Ariel. In the fancy varieties, Messrs. Turner, Fraser, Weir, Bailey, and Lamb showed the best collections, and the names of the plants were Rio des Fantasies, Arabella Goddard, Acme, Negro, Delicatum, Clemanthe, Queen of the Valley, Modestum, *Carminatum*, Celestial, Clara Novello, Lady Hugh Campbell, Emily Witcher, Madame Sontag, and Delicatissima.

Calceolarias.—These were very beautiful and consisted of new varieties, shown by Mr. J. James and Messrs. Dobson, of Isleworth. Those of Mr. James were Duke of Cambridge, dark crimson maroon self; Miss Walker, gold ground with brown spots; Prince of Wales, rich red, spotted like a Queen strawberry; Miss Smith, a curious buff ground, covered with deep red lines, extra good; Mr. Smith, crimson ground, and gold spots; and Brilliant, gorgeous scarlet crimson.

Roses.—A grand display was made by Messrs. Wm. Paul, Francis, Lane and Son, and Terry. They were pot plants, generally trained pyramid fashion, and were Madame St. Joseph, Paul Ricaut, Paul Perras, Senateur Vaisse, Charles Lawson, Coupe d'Hebe, Lord Raglan, Triomphe de Paris, Souvenir d'un Ami, Comte de Nanteuil, Gen. Jacqueminot, La Reine, Madame Willermoz, Madame Hector Jacquin, Jules Margottin, Baronne Prevost, Blairii, and Chene-dole.

Orchids were shown in considerable numbers, and filled a long bank down one side of the tent. The best lot was a superb collection of twenty

from Mr. G. Baker, gardener to A. Basset, Esq., Stamford Hill, which contained the best *Cattleya Mossiae* in the show, with healthy foliage and fine blooms; *Oncidium crispum*, *Saccolabium curvifolium*, *retusum*, and *ampullaceum*; *Oncidium crispum* and *ampliatum majus*; *Dendrobium primuminum*, and *Dalhousiana*; *Cypripedium Lowii*, *Barbatum superbens*, *Calanthe veratrifolia*, *Vanda insignis*, *Aerides odorata*, and others. Mr. Bullen, gardener to A. Turner, Esq., Leicester, also showed a beautiful set of twenty, and the other exhibitors were Messrs. Peed, Woolley, Page, Wheeler, Smith, Green, and Wiggins.

ABOUT BEDDING.

A GOOD deal has been said in the FLORAL WORLD on the subject of keeping gardens always gay, or, at all events, always sightly, and the toughest part of that matter has been to deal with the period between the blooming of the first spring flowers, and the general eruption of fiery colours in the beds appropriated to geraniums, verbenas, etc., etc. I should not dwell so much on my own practice in these papers did I not observe that of all the records of my own movements they create more interest than any articles of the treatise type, however carefully done or adapted to the season and the fashion. Therefore I shall begin by telling you that, as in 1862, I put out all my stock of geraniums on the 26th of April, and they did remarkable well; in 1863 I waited till the 14th of May, and should not have turned them out so early as that except they were all as hard as iron, having never tasted fire-heat all through the past mild winter. Perhaps this may meet the eye of some who have not yet began; if so, I wish to assure them that they have lost nothing by delay, for the sharp east winds which have prevailed during the latter part of May have taken all the colour out of the leaves of nursery plants, and would have taken the colour out of the bloom too,

had they had any to be injured. There is nothing gained as to effect by bedding out early; generally speaking, there is much gained by waiting; the ground gets warm, and the plants get strong, and when put out with care, they begin to bloom at once, instead of turning yellow for a fortnight, and requiring another fortnight to recover from the shock. Of course there are exceptions to all rules, and in some warm sheltered places, people may do almost anything except put the plants upside down, and all will come right.

Now, as to this seasonal hiatus, so commonly observed in private gardens, I must tell you I know nothing of it. When my windows were cleared of what we call "spring flowers," such as hyacinths, crocusses, dionysiums, pansies, and other things that carry the season forward nearly to the brink of summer, they were all filled with that charming, hardy, yellow-flowering shrub *Alyssum saxatile*, which made a splendid bloom, the plants being in 48-size pots, and all from seed sown at the end of June last year. These made an end of their course before the end of May, but just in time to make room for common China and hybrid perpetual roses in pots, which had been brought into bloom without heat in a comfortable

house for the purpose. When these are beginning to look seedy they will all be removed, and we shall have rows of Christine geraniums at all the windows, and there will be flowers enough for some months to come. Now, just the same succession may be made in beds and borders, and I am setting an example that way by growing all sorts of things in quantities in pots. Having two plots of ground away from home, I can send off the plants as soon as they are seedy, have them repotted, plunged, and kept growing for the next season with very little trouble, keeping up the changes as needful at any time, and in any way that seasons and circumstances require.

You know that in my forecourt is a stone jardinet of Ransome's, that is now and has been for some time as fine a bed as may be seen at any time of year in the best kept garden in the land. It was stocked in less than an hour, and can be unstocked in twenty minutes, and when the plants are taken out, there will be no hurry or bother about potting them, because they are potted already, and only a few of them will need a shift this season. In the centre a fine shrub of blue veronica, four feet high, in a ten-inch pot; it is full of bloom, and has been out all winter; on each side, one way, a pair of large plants of *Cytisus Atleena* in full bloom, and the other way, large plants of *Dielytra spectabilis*. This makes a showy central clump to begin with. Then, to follow all round, there are three tall plants of Purple Nosegay, Rubens, and Reidii geranium, smaller plants of *Dielytra*, large plants of *Farfugium grande*. Four plants of *Veratrum album*, with their noble tropical-looking foliage, and between several large plants of *Hotteia Japonica* (commonly known as *Spirea Japonica*), smothered with spikes of snow-white, around these again small plants of Imperial Crimson geranium, and to finish off all round ferns and seedling *Cupressus Lawsoniana*. They are packed so close, and the large-leaved plants so placed, that not a single pot can be discerned except by stooping and looking for them. The

reader will call this blowing hot and cold with the same breath, but it is not so. Though geraniums make this mixed clump very gay, they are not bedded but in the pots they wintered in, and you know how strong and early they bloom when they have had no shift in autumn or spring.

All these geraniums were from cuttings last June. The cuttings were potted separately in thumb-pots, and put under glass; when rooted, they were shifted to 60 size, in strong turfy loam, then to 48 size, and thus they got rather pot-bound before winter, and now show as much flower as leaf. In July next they will be first pruned for cuttings, and next be shaken out and repotted, and next spring they will bloom again very early and most profusely. In a very short time the weather will be warm enough for fuchsias in bloom to be put out without danger, then the bed will be changed and filled as close as it will pack with potted fuchsias, but if they were put out now, they would immediately drop their blooms and be more shabby in the middle of June than they were in the middle of February. But suppose I could not have spared these plants to put out at such a risk, then I should have filled the bed with a large centre of *Alyssum saxatile* and a broad ring outside of *Aubrietia purpurea*, and this last has bloomed this season more profusely than I ever saw it before; some of the old clumps have been one mass of rosy purple for six weeks past, and it has for companion *Iberis sempervirens* and *Iberis correaefolia*, the two best early white flowering hardy plants known. The last is tallied *cornifolia* in some catalogues, which is a mistake.

Among the good old scarlet geraniums there is one called *Attraction*, which is rarely seen, and still more rarely talked about. It has been many times recommended in these pages, and is mentioned now to give it another chance of popularity, as exactly ten times more valuable than *Tom Thumb*, and in some respects superior to *Crystal Palace scarlet*. I have put out the last batch of *Tom Thumb* I shall ever make room for;

other people may do as they please, but after this present season Tom and I part for ever, and my choice for a dwarf scarlet will be between Crystal Palace and Attraction. The first of these is so like Tom in colour and habit, that it needs no description, but it surpasses our good old friend Tom in longer continuance of bloom, and a more even bloom the whole season through. But Attraction belongs to the class of scarlets which come near to the florists' standard of properties, and has all the freeness of a true bedder; it is of dwarf habit, has plain green leaves, short joints, and begins to bloom well from cuttings immediately it has struck root. I particularly noticed a bed of this at the Crystal Palace last year, and marked it down then as the best of all the scarlets for a bed or front row, but I do not now pledge myself that it is the best, because it is impossible to use the term without adding conditions, and one condition essential to Attraction is a dry, sandy soil and a sunny position.

I must now tell you that I have planted out for trial a large collection of new geraniums, of which many are now in bloom and already showing their qualities fairly. I have plants of all the same kinds in pots, so as to compare them on both systems to the end of the season. First among them, as we have just been speaking of scarlets, I must name Carter's Spread Eagle, raised by Mr. Beaton. This is of the nosegay race, but with very broad petals; that is, broad for nosegays, which are unpopular, because of their windmill character. Spread Eagle will be one of the most fiery geraniums known, and in a poor soil and hot position will make a subject to talk about. The colour is deep orange scarlet, habit dwarf, and the trusses come at nearly every joint, so that when it has made a fair start it is not an agreeable object to look at for any length of time in the full sun. Merimac, also raised by Beaton and sent out by Carter, is of similar habit also, with broad petals, but the colour is glowing crimson, and it may be considered an improved Imperial

Crimson, which is about as high praise as need be bestowed upon it to insure for it the popularity it deserves. I have had six large trusses open at once, on plants scarcely four inches high. Miss Parfit, from the same breeder and the same dealer, is nearly of the same colour as Merimac, say dazzling scarlet-crimson with a faint white eye. The leaf of this is a dull green slightly zoned, and it grows dwarf and compact. Last in this series is Lord Palmerston, which was bedded out at South Kensington last year. This produces large trusses of deep crimson, and I should recommend it for its intrinsic beauty; but I have some doubts about its wearing qualities, and shall withhold any further expression of opinion respecting it for the present. Now a plant each of all these four can be had for half a sovereign, and the purchaser can, if he pleases, propagate from June to September, and have a tolerably sized house full for use next year, and by that time know exactly what to do with them and what they will do for themselves. Next in this comparison of scarlets Beaton's Improved Rubens is a capital thing, in a quite new shade of colour. The peculiar salmon scarlet of Rubens has had two washes of a deeper tone of red laid on, the petals have been stretched a trifle wider, and are one film stouter in substance, and for Berlin wool shading this will be invaluable. It is, in fact, a softened scarlet, the form of the flower as nearly perfect as in any bedder we have, and it stands sun and rain with impunity.

So far for new scarlets, now for old ones again. The race among amateurs who bed out hundreds is all in the zonale section, but among the great artists who bed thousands the race is among the nosegays. The narrow petals of the nosegays stop their progress to popularity, yet when skilfully used there is no class of bedders to equal them for abundance of bloom, clear fresh solid colouring, and powers of endurance. See Mrs. Vernon, or Fothergilli, or Carmine Nosegay used with calceolarias and variegated geraniums at such places

as Kew, Crystal Palace, or Hampton Court, and how worthy are they to be admired as far surpassing any, even the best effects of the common scarlets. The fact is it needs courage to use them more than skill, and the masters of the art have acquired courage by long and patient schooling, which few amateurs have had. Our readers ought to secure the following as invaluable :—Imperial Crimson, Stella, Rival Nosegay, Carminatum Improved, and those just named above. Suppose you do not want to bed any of them, they will still be fine things for pot culture, to fill boxes and vases, or to plant about on banks and in tree roots, or to put in the reserve ground for cut flowers. All the nosegays require a fresh, poor, sandy soil, and full sun, and every old plant is worth six young ones.

Christine has acquired nearly as great a fame as Tom Thumb, and it is the best of all the old rose-coloured geraniums for ordinary purposes. At Kensington last year they put it aside for Rose Queen, and on some soils *Lucea rosea* is a more manageable kind in the same colour. Christine has these excellences, that it never grows rank, always keeps breaking from the bottom, so as to be compact and bushy, and blooms during as long a period without exhaustion as any geranium known. But it has its faults, all of them trifling but one, and that one must be named as a great fault. It is a tremendous seeder. From one plant which stood in a circular window, and was the admiration of the whole village last year, I picked as much seed as would pretty well plant all the gardens of the village with seedlings were they put to that purpose; but it is no joke to keep the seeds off a bed, and in a large place kept in first-rate order, a good bed of Christine would need very nearly the whole time of one man to attend to it. No wonder the breeders have kept this defect in mind in proving their seedlings of this lovely bedder. Among the hundreds of good seedlings of Christine there are two now competing for the special favour of the public. Messrs. Carter send out one raised by Mr.

Beaton, and called Helen Lindsay. This produces large trusses and large flowers, has the same dull green mollis sort of leaf of the parent, the flowers are clear warm rose colour, and they produce very few seeds. Messrs. E. G. Henderson offer another called Alexander, raised by M. Babouillard, which is said to beat Christine and Helen Lindsay. The proof of the pudding is in the eating, and I am eating both, and endeavouring to make up my mind which is best. But it is too early yet. I have them in bloom side by side in pots, and in the open ground, and they are both better than Christine in a small state; what they will be the season through and which will win the race remains to be seen.

When we turn to the variegated geraniums, we encounter the tricolor race as the crowning glory of the class. Anybody who can manage Golden Chain can manage Mrs. Pollock, and as it has come down from a guinea to three half-crowns a plant, it may be classed with poor men's bedders because it is just the right sort of practice for a genuine garden enthusiast to get up a stock of such a gem as this. Messrs. E. G. Henderson have embarked in tricolors to an enormous extent, and have whole houses full, and filling again from the propagators as fast as customers sweep the strong plants away. Mrs. Milford goes at a fourth the price of Mrs. Pollock, and is certainly some shades less attractive, for, all things considered, Mrs. Pollock shows the grandest foliage of any geranium known, and in a well-kept bed is like a bedded rainbow. Getting away from these by an intermediate passage, are our readers generally acquainted with Lady of Loretto, a shy bloomer of the Cerise Unique strain, and with the most lively, neat, and tasteful zoned leaf of all except the genuine tricolors. Next we come to the Gold Leaf race, and here our original verdict has been verified in all the good gardens, and Cloth of Gold has eclipsed that charming, but sometimes troublesome variety, Golden Chain, which none will bed now but such as are so used to it, and so prejudiced in

its favour that real Australian gold in nuggets would not win them away from it. We can do without Golden Fleece and Gold Leaf, but Cloth of Gold in a bed on its own merits, edged with Blue Lobelia, is about as rich and perfect a thing as can be imagined.

We can generally trust pretty safely to the index of trade for an index of merit. The good things sell in greatest quantity, and no amount of puffing will long serve to keep a bad or middling good article in demand. But with one noted variegated geranium the degree of the demand is not in strict agreement with its merits. Flower of the Day sells more largely than any of the creamy or silver-leaved geraniums, and yet it is now one of the worst. The reason of the large sale is the fame it has, but while its fame was culminating, a host of better things were in progress, and former pages of this work testify of the value of Alma, Annie, Countess of Warwick, and Bijou, and now, taking all points into consideration, Bijou is certainly the best for all general purposes, and for use on a large scale. Beside Bijou, the foliage of Flower of the Day has quite a dull and dirty look, and as to flowers, Bijou is equal to any of the good, plain-leaved scarlets, as Alma is also, and both are good growers. One great advantage in Bijou beside the sparkling whiteness of the edge, is that the leaves are concave, so that the green part is hidden by the white, and in a mass it has a most chaste and silvery look. Of course Lady Plymouth, Dandy, Manglesii, Mountain of Light, and Mountain of Snow will keep their places and be used for edgings more and more largely every year, the first three being the best.

This last item brings us naturally to edging plants, and let me tell you first that the new silver-edged ivy makes the most solid glittering edge conceivable, and is good all the winter, as hardy as the green ivy of the woods, and always true in a firm, loamy soil, or on chalk or sand, or anywhere except in ground rank with manure. The most fashionable of the

silvery edgings is *Gnaphalium lanatum*, a woolly leaved composite plant requiring rather careful protection all the winter, and to be pegged down and nipped back all the summer, for when put out it grows most vigorously. *Stachys lanata* is a poor man's plant, as hardy as chickweed, and the colour a clear gray; it makes a fine edge to geraniums, and does not need to be taken up for the winter. *Cerastium Biebersteinii* is considerably more effective than *C. tomentosum*, and may be managed the same way with Golden Balm and Variegated Mint for instantaneous bedding on the plan described in the "Garden Oracle" for 1863, and which everybody should read before they conclude their purchases of plants, with the view of saving at least twenty-five per cent. of their money. *Cineraria maritima* makes a fine silvery edging if from seeds.

As we have got among these "foliage" plants once more, I shall add, to wind up, that one of the most valuable plants ever seen or heard of for amateurs who are not made of money is the Golden Balm just referred to. The leaves are considerably larger than those of the common variegated mint, and instead of being variously blotched, edged, or wholly white or wholly green, as in that plant, those of the Golden Balm are richly and uniformly painted a deep orange yellow with a narrow stripe of deep green up the centre. Seen in a mass it is so fine that if I were to use the word "gorgeous" I should scarcely exaggerate. It appears to be scarce, I have never seen it anywhere but in my own garden, and I have now only just enough to keep in case of needing a quantity at any time, as I may do this season. It has this further good quality, that if left in the ground where originally planted it comes up the next year amazingly strong and as true as from cuttings, which is not the case with the famous variegated mint. I would match it against Golden Chain any day for effect, and I advise every reader of this to begin boring the nurserymen for it till it is as freely distributed as the variegated mint.

S. H.

ROSE GOSSIP.—No. III.

THE NOVELTIES FOR 1863.

"*Est natural hominum novitatis avida,*" which may be read as to us florists, *greedy after the novelties.* It is not surprising, therefore, that a rose enthusiast should seize the earliest opportunity of obtaining a glimpse at some of the forthcoming candidates for honours in the rose lists, and that he should desire to make known the result of his researches to his brother rosarians.

The Lea Bridge Road Nurseries (Messrs. J. and J. Fraser) are the nearest point where I can make sure of seeing the *élite* of the novelties, and, as the Messrs. Frasers are always early with their plants, I can generally depend upon seeing some in bloom. On one of my visits I was fortunate enough to meet with Mr. John Fraser, and enjoy an interesting discussion upon matters connected with rose lore. I saw hosts of fine young plants just ready to send out, in addition to those specimens of older favourites kept for propagating purposes, and many of both kinds in bloom. I give the following as most striking, and, to save space, must refer the reader to the catalogues for detailed descriptions:—H.P.'s Alfred de Rougemont; Duc d'Anjou; Deuil de Prince Albert, one of the dark sorts, with a twiggy habit, I think; Jean Goujon. Mr. Fraser agreed with me in considering this a most promising kind, and I noticed in a whole batch of plants, that almost every shoot had a bud upon it. Le Rhone, likely to be good, put as a bedder; Le Baron Rothschild, fine colour; B. Louise Margottin, delicate and lovely, fine habit, and an acquisition in a line of colour much required. H.P.'s President Lincoln and Madame Valemour are pretty perhaps, and the new yellow teas not much at present. Teas, however, seldom show much promise the first season or two; they are usually thin, and not very double. It would be out of place to dilate upon older favourites, but I must just remark that I noticed a goodly stock

of such in the frames; well-hardened plants, and just the stuff to turn out in beds. There is one advantageous feature in the mode of culture of these plants: they are grown in loam from the beginning. Too many nurserymen send out their young stock in peat, and such-like soils. The consequence is that when they are transferred to the garden where the soil is stiffer, they generally stand still the first season, and damp off in the following spring, the roots not being tough enough to deal with the adjacent ground. This remark will furnish a hint to amateurs to make the soil somewhat light and free for young plants during their first season, till they have become well established.

The name of "Paul" is synonymous with successful rose-growing, and my next trip in search of novelties was to Waltham Cross and Cheshunt. Of these two celebrated nurseries it may be said that the rose is to be found at both in all its native glory, and that a treat is to be enjoyed by rose lovers, from the time the forcing house develops the exotic beauty of its tenants, till the open quarters are denuded by the exigencies of business, or by the autumn winds and frosts. From the period of my visit I must have seen some of the blooms and plants which played so conspicuous a part at the Royal Botanic show on Saturday last, at which I see both the firms gained prizes.

I took Mr. Wm. Paul's new nursery at Waltham Cross the first, and inspected several houses filled with plants of every size, sort, and grade in novelty and merit. In one house I counted some three hundred plants, chiefly standards, and many of them in bloom. My business, however, is not with these, but with the untried neophytes for a place in public favour. Of these Mr. Wm. Paul has a very long list; and I saw in flower H.P.'s Princess Alice, Grandiflora, Alfred de Rougemont, Duc d'Anjou, Jean Goujon, Madame C. Roy, La

Esmeralda, President Lincoln, Comtesse de Courcy, and Madame Wm. Paul. I have placed this last because it struck my fancy as a rose of special pretensions in its line of colour, viz., purple crimson with fiery centre, being larger and better shaped, higher in the centre, and of greater substance than that style of flower usually is. Of other kinds worthy of special remark, new if not the newest, I must first note Beauty of Waltham, which appears as much at home in the forcing house as out of doors; blooming plentifully, and like *Senateur Vaisse*, keeping its character there, which is not the case with every rose. I remarked also some tremendous blooms of *T. President*; *Olivier Delhomme*, *Maurice Bernardin*, and *Madame Daran*, were also large and good.

I next proceeded to the "Old Nurseries" at Cheshunt, which are prettily situate in a rural country. Here I was politely received by Mr. Paul, sen., who committed me to the charge of his son, who appears to have inherited the family enthusiasm for rose culture, and who kindly introduced me to the notabilities of the domain. I saw in flower most of the varieties I have already named, and in addition *H.P.'s*, *Maria Alexandrina*, and *T. Belle de Bordeaux*. (Query, is this really a tea?) There were also some very fine plants in bloom of *B.'s Catherine Guillot*, and *Modele de Perfection*, and *H.P.'s Alex. Dumas*, *F. Lacharme*, *Madame J. Daran*, *Madame Butin*, *E. Lebrun*, *Notre Dame de Fouvrieres*, and *John Hopper*. "*Our Lady*" struck me as being one of the prettiest and most distinct of last year's introductions; and some of the plants were the best grown and most compact specimen plants I have ever seen; not too large, but

bushy and full, and requiring no forest of timber to sustain them in a presentable shape. In a house devoted to large specimens planted out, was a plant of *Isabella Grey*, full of buds and clusters of buds, which will be a picture when open, and a little triumph of cultivation, as this variety is very difficult to "do." *Elize Sauvage*, another shy beauty, was also in fine trim. "*Lord Clyde*" was not in flower, at which I was rather disappointed; but the habit appears to be fine, and Messrs. Paul seem to consider that it will make a good garden rose.

As to which of the novelties to recommend, it would be too hazardous and premature as yet to venture upon a prediction; and I should advise amateurs to do as I have done, — see and judge for themselves. A holiday in the country air, and a floral treat at the journey's end, will do them good, and increase their love for the beautiful as developed in flowers. Roses, like other beauties, are often capricious, and do not, at all times and under all circumstances, think proper to display themselves in their true characters. It is impossible, therefore, to venture more than a conjecture upon new varieties. Subject to this reservation, the following among those I have already seen appear most likely to repay speculation. *H.P.'s Jean Goujon*, *Madame W. Paul*, *Alfred de Rougemont*, *Duc d'Anjou*, *Le Rhone*, *Le Baron Rothschild*, and *B. Louise Margottin*. Certainly if a rose behaves itself well under such adverse conditions as attend its first appearance here, it is not likely to degenerate when it has become acclimatized, and recovered from the effects of distant removal and hard propagation.

W. D. PRIOR.

Homerton, N.E., April 10.

HINTS ON ROSE GROWING.

THE land, if not dry, should be well-drained and trenched one and a half foot deep, and made rich with a good dressing of well-decomposed stable or cow-dung, the upper graft from a

pasture mixed with a well-decomposed manure makes an excellent compost for roses; a good shovelful or two each, when planting, will be found of great service. Mr. Rivers justly ob-

serves that Hybrid Perpetual and Bourbon Roses bloom much more abundantly in autumn if they are removed annually in November, particularly on poor soils; they can be planted in the same places, giving each plant a shovelful of rotten manure, mixing it well with the soil in planting. Liquid manure, in the growing season, is of great benefit, particularly in dry and poor soils. Guano, mixed with soap-suds or pond-water, makes an excellent liquid for roses, taking care not to make it too

strong (a quarter of a pound to a gallon of water), pouring it round the plant, a foot from the stem; this may be repeated three or four times through the summer. On cold clayey lands I have found soot to be a most excellent thing for roses, after the plants are pruned and the land dug (a handful or two thrown over the plant); it is a most excellent manure, and a preventive against the early attack of the green-fly.—*Harrison, of Darlington's Catalogue of Roses.*

JUNE, 1863.—30 DAYS.

PHASES OF THE MOON.—Full, 1st, 11h. 30m. after.; Last Quarter, 8th, 1h. 52m. after.; New, 16th, 7h. 36m. morn.; First Quarter, 24th, 10h. 31m. morn.

D M	Sun		Moon		Weather near London, 1862.						Rain.	THE COUNTRY.						
	rises.		rises.		BAROMETER.		THERMOMETER.					The Garden and the Field.						
	h. m.	h. m.	Aft.	Morn.	Mx.	Min.	Mx.	Mn.	Me.									
1	3	51	8	4	7	52	3	12	29.99	...	29.87	76	...	40	...	58.0	.00	Bogbean fl.
2	3	50	8	5	8	56	4	4	30.03	...	29.98	79	...	52	...	65.5	.00	Elder fl.
3	3	49	8	6	9	47	5	10	30.09	...	29.09	69	...	41	...	55.0	.02	Rye grass fl.
4	3	49	8	7	10	29	6	29	30.15	...	29.94	72	...	44	...	58.0	.00	Bee orchis fl.
5	3	48	8	8	11	2	7	49	29.80	...	29.61	65	...	50	...	57.5	.28	Pink fl.
6	3	47	8	9	11	28	9	11	29.63	...	29.51	67	...	55	...	61.0	.03	Sainfoin fl.
7	3	47	8	10	11	50	10	31	29.78	...	29.66	71	...	48	...	69.5	.06	Portugal laurel fl.
8	3	46	8	11	Morn.	11	48		29.93	...	29.81	71	...	36	...	53.5	.00	Dog-rose fl.
9	3	46	8	12	0	12	After.		29.96	...	29.93	68	...	34	...	51.0	.03	Mallow fl.
10	3	45	8	13	0	33	2	17	29.94	...	29.68	69	...	44	...	56.5	.04	Rough-stalked meadow grass fl.
11	3	45	8	13	0	56	3	27	29.39	...	29.32	70	...	47	...	58.5	.20	Floating meadow grass
12	3	45	8	14	1	21	4	37	29.43	...	29.14	65	...	44	...	54.5	.06	Woody Nightshade fl.
13	3	45	8	15	1	50	5	42	29.57	...	29.52	70	...	43	...	56.5	.48	Henbane fl.
14	3	44	8	15	2	26	6	42	29.63	...	29.54	62	...	40	...	51.0	.20	Field scabious fl.
15	3	44	8	16	3	7	7	34	29.78	...	29.68	68	...	45	...	56.5	.08	Corn-cockle fl.
16	3	44	8	16	3	56	8	20	29.97	...	29.92	73	...	40	...	56.5	.12	Piper's Bugloss fl.
17	3	44	8	17	4	51	8	58	30.01	...	29.86	71	...	47	...	59.0	.03	Bladder-nut fl.
18	3	44	8	17	5	53	9	28	30.01	...	29.86	65	...	41	...	53.0	.05	Club-rush fl.
19	3	44	8	18	6	55	9	53	30.08	...	29.91	66	...	44	...	55.0	.00	Foxglove fl.
20	3	44	8	18	7	59	10	16	29.90	...	29.81	61	...	44	...	52.5	.00	Mayweed fl.
21	3	44	8	18	9	4	10	36	29.82	...	29.65	62	...	49	...	55.5	.06	Water-plaintain fl.
22	3	45	8	19	10	11	10	56	29.71	...	29.67	78	...	41	...	59.5	.00	Lady's slipper fl.
23	3	45	8	19	11	18	11	14	29.85	...	29.74	77	...	42	...	59.5	.00	St. John's Wort fl.
24	3	45	8	19	After.	11	35		29.93	...	29.90	72	...	41	...	56.5	.00	Privet fl.
25	3	45	8	19	1	39	11	58	30.13	...	30.06	68	...	40	...	54.0	.02	Broom-rape fl.
26	3	46	8	19	2	55	Morn.		30.05	...	29.94	73	...	47	...	60.0	.00	Orchis species fl.
27	3	46	8	19	4	9	0	26	29.80	...	29.69	64	...	39	...	51.5	.07	Yarrow fl.
28	3	47	8	19	5	26	1	3	29.91	...	29.83	67	...	34	...	50.5	.02	Lady's Bedstraw fl.
29	3	47	8	19	6	35	1	49	29.99	...	29.90	72	...	50	...	61.0	.00	Pimpernel fl.
30	3	48	8	18	7	34	2	47	29.92	...	29.88	71	...	40	...	55.5		

LONDON SCENES AND LONDON PEOPLE, by "Aleph," is the title of a new work, by a contributor to the *City Press*, on the curiosities of London city. It is the most entertaining topographical work we have ever yet met with, and is in great part the result of personal observations and experiences, the author being an old *habitué* of the City. The chapters on the City

trees, the Guildhall pigeons, and other touches of rurality that still linger in the heart of London, are most admirably written, and the book, as a whole, is rich in anecdote, description, and criticism, illustrative of the relations of town and country, as brought together in the capital of the empire.

THE GARDEN GUIDE FOR MAY.

KITCHEN GARDEN.—The ground will be now, for the most part, covered, and everything in full growth. The hoe must never be idle; weeds grow faster than the crops, and exhaust the soil rapidly, and, if allowed to seed, make the mischief worse. Next to keeping down weeds, the most important operation is that of watering. Plants lately put out should not be drenched to excess, or the chill will check them more than a drought would, and it is better to trust to moderate watering and shade combined, than to keep the soil soddened about plants that have barely taken root. Cucumbers, gourds, tomatoes, and capsicums may be put out; the soil should be rich; and, for tomatoes, a sunny aspect must be chosen. Manure-water should be freely used to all crops in full growth, and especially to strawberries, but there should be two or three waterings with plain water to one with liquid manure. Sow beet, early horn carrots, scarlet runners, and French beans, turnips, lettuces, radishes, cabbages, spinach, endive, cauliflower, and peas and beans. All salad plants should have a shady position, or they may run to seed. In sowing peas and beans, it is best to depend on the earliest sorts, at this time of year, as they are soon off the ground, but Knight's Marrow and Bedman's Imperial are good peas to sow now for late supply. Dress asparagus and seakale beds with one pound of salt to every square yard, and give asparagus beds strong doses of liquid manure from horsedung.

FLOWER GARDEN.—Newly-made lawns require a little special care at this season. If the grass is thin it must not be mown and swept in the usual way, for the roots of young grass suffer from the effects of a hot sun when there is not a close bottom to preserve moisture. It is a good plan to mow early, and leave the mowings till the evening, then sweep and clear up, and the grass will have twenty-four hours from the

morning before the sun comes on it again, or, reckoning from the day before the mowing, thirty-six hours, which will materially assist in promoting a thickening of the bottom. Where walks look dingy, a turning with a fork and a good rolling is often as effectual a reviver as a supply of new gravel, but if the old gravel is of trifling depth or a bad colour, a new coating will complete the beauty of the garden, and give it a necessary finish. Carnations, picotees, and pinks may now be propagated by pipings on the north side of a fence, or in pots, half filled with sandy loam. The old plan of striking them in heat and in exciting composts is quite exploded as a fallacy. Ranunculuses will want water frequently; they cannot endure drought, and beds of valuable kinds must be placed in the same way as tulips, with netting or canvas. Pansies strike readily from short side-shoots; the old hollow stems will strike also, but never make good plants; the new growth is that to be depended on. Dahlias not staked should be attended to forthwith; indeed, the stakes should be put in at the time of planting, so as to avoid damage to the roots when they have begun to grow. Perennials should be sown for next season's blooming, so as to get strong plants. Sow thin in nursery beds, and prick out the plants in rows as soon as they make rough leaves. If left crowded together they grow spindled, and never make strong plants.

GREENHOUSE.—To prolong the beauty of the plants in flower, put up a shading of tiffany or Haythorn's hexagon net; the latter will also be useful to exclude bees and wasps, for flowers on which bees have settled perish sooner than those they have no access to, owing to their disturbing the pollen, and causing a formation of seed-pods. A method of prolonging the bloom of flowers, and, in the opinion of some, increasing their beauty, is, to get some dis-

solved gum arabic, and a camel's-hair brush. The brush is dipped in, and the centre of every flower touched with the gum, where it forms a bright bead, and prevents the distribution of the pollen. Of course, the flowers should be touched soon after they open, or Nature may have accomplished her end before the preventive is brought into operation. It is important to keep the first blooms on specimen azaleas, pelargoniums, etc., in this way, so as to get the whole plant covered by the time the later blossoms open. Pelargoniums done blooming should be cut in and allowed to break before repotting. They should be kept rather dry, so as to break slowly, and when potted into small pots, put in a cold frame, and kept close, till they begin to make fresh root, when they must have plenty of light and air. Cinerarias done blooming may be propagated by side-shoots and suckers; if the plants are turned out on a border, and heaped round the collar with sandy loam, they will throw out suckers, which may afterwards be slipped off with a portion of root attached. The time is now arriving for clearing out the house, and give it any necessary clearing and repairs, and cold frames should be provided in good time to receive those plants that are not to be turned out of their pots for the summer.

STOVE.—Liberal waterings must now be given, and abundance of air, especially among hard-wooded plants. Pines, same treatment as last month. New Holland plants should be encouraged to grow, and liberal shifts given as required.

Auriculas will want occasional fumigating, keep them in a cool place, on a hard bottom, and pour water amongst them on the ground surface to cause a moist air. An old light may be rested on pots over them during storms, otherwise let them have the benefit of all showers.

Asters may now be turned out in the places where they are to bloom; make the ground rich, and choose showery weather. If the place is infested with snails, plant a few small lettuces behind the back row, which may be pulled up as soon as the asters are well rooted. Those to flower in pots to have a good shift and cold frame.

Azaleas not yet done growing, keep moist and shaded, but beware not to push the growth too far, as unless they are well ripened and rested, there will be few flower-buds formed. There is not much danger of that, however, just yet, except with those forced early. Plants that are leggy are likely to throw out shoots along the stems if laid on their sides.

Apricots to be thinned, young shoots

nail in, caterpillars destroyed, and water-engine used smartly, if any sign of fly, which rarely troubles them.

Americans newly planted must have abundance of water, overhead as well as at the root. Remove by carefully snapping out with finger and thumb the dead blooms of rhododendrons and azaleas, to prevent seeding.

Annals of quick growth, sown now, will bloom late for succession. *Nemophilas* never make a better effect than from sowings in June, in moist, shady places. *Asters* and *balsams* to be planted out during moist, dull weather.

Asparagus not to be cut after the 15th, then to be cleaned over and allowed to grow.

Begonias planted out in open ground not to have a drop of water on their leaves, and to be handled with great care. Shelter from wind is greatly needed.

Celery to be got into trenches as fast as the ground can be made ready, by the removal of other crops. Take up each with a ball, and do not injure a single leaf. Hoe over those that are established in trenches, to break the surface that has been hardened by watering.

Cinerarias may now be earthed up, to promote the rooting of the suckers. Throw away all seedlings of inferior quality, and propagate only the best. They require a cool, shady place while making suckers, which are to be removed as soon as rooted. Sow seed for next year, and pot off rooted cuttings.

Camellias may be got out in a shady place, on a bed of tiles or coal-ashes, and kept frequently watered. If kept in the house, there must be air on night and day. This hot weather will ripen the wood to perfection for next year.

Dahlias planted out, to be staked before the roots extend. Plant out all that are in pots at once; they will do better in the ground now than with any more nursing. The shoots of dahlias may be bent down so as to render very short stakes sufficient.

Fuchsias, keep well shaded, well watered, well ventilated, and with a cool, moist bottom. Plants from spring cuttings will be useful in five and six-inch pots, to keep the houses gay in company with balsams and other summer flowers.

Fruit.—Search among raspberries every morning for snails, which take shelter on the stakes and among the side-shoots. If large fruit are required, thin the blooms at once, and give liquid manure. Stone-fruits look well this season, and no blight yet, but it may come suddenly, and must be prepared for. Disbud and nail in. Pot trees to have plenty of water, and, if weakly in their new growth, pretty strong

doses of liquid manure at intervals of at least a week each. Pinch, regulate, and where fruit shows thick, thin it out.

Geraniums propagated now will flower in the autumn; sorts of which a large stock is required for next year, should be cut at as soon as established in the reserve ground. In bedding out use a trowel, and close in neatly, as the plants will not thrive with hard cakes of soil about them. Where the soil is very rich, and geraniums are found to grow too rank for flowering freely, merely raising the beds to render them dry, will do much to insure a gay bloom. Road sand from gravel roads is the best of all soil for Tom Thumbs and other ordinary scarlets. Geraniums in beds, avoid watering if possible, after the first dose to settle the earth about them. They will root deeper and do better in the end. Pot plants want plenty of water, and if leggy, pinch out the tops and give a shift, and plenty of side-shoots and blooms will follow to the end of the season.

Heliotropes make rapid growth on hot-walks, and are very useful to fill up blanks. Petunias may be used the same way, to run up to five or six feet. Rich soil and plenty of water are requisite if such a free growth is required.

Herbaceous Plants may now be propagated from cuttings as they go out of bloom. Alyssums, wallflowers, perennial iberis, etc., are easily propagated, and the borders may be richly furnished with them by a little timely trouble.

Vines to be frequently syringed, and every appearance of vermin to be dealt with promptly. Train in as soon as the shoots can be handled, that there may be no after-twisting and injuring. A dry air and dry border will promote the spread of red spider, but moisture is death to this pest. Give muscats plenty of heat.

Hollyhocks.—Stake at once, and tie in as soon as the stems are tall enough, and frequently look at the ties to see they do not cut their swelling stems. Heavy manuring in the first instance is preferable to watering with liquid manure, but in poor soils liquid manure may be used abundantly.

Pansies.—Take cuttings of the best, look over seedlings and root out and destroy all inferior ones. Sow again for autumn bloom.

Pelargoniums.—Shade the house, plenty of water, stake and tie as needful, keep a sharp eye after vermin. Plants out of bloom keep cool and dry out of doors.

Tulips.—Remove the shading, and let them have the benefit of rains and dews.

ORCHID HOUSE.—All orchids from the

eastern parts of the world will now require abundance of water. Advantage may be taken of sun-heat to lessen the expenditure of fuel, but there must be some ventilation. Orchids on blocks and in baskets require to be well soaked occasionally, and for this work the new "Orchid Bath," manufactured by Warner and Sons, is a most useful apparatus. *Cymbidium eburneum* and *C. giganteum* will probably require repotting now, and in so doing strong plants may be increased by dividing the bulbs. They require plenty of pot-room, good drainage, and fibry peat in lumps. Many of the *Vandas* are now in their full beauty, and must be kept cool to prolong the bloom. As soon as they have done blooming repot them. *Stanhopeas* pushing their flower-buds through their baskets now, are occasionally injured by contact with the material of which the baskets are made, and an occasional examination will be necessary to prevent this. These will grow in either the Indian or Mexican house if managed with care. They require shallow baskets, with plenty of openings so that the flowers may find their way through, plenty of water while growing, and after the growth is completed, a long period of rest during which they should be kept only moderately moist. Prepare flowering plants for the conservatory by taking them first to ainery, or any structure of a temperature intermediate between the orchid-house and the conservatory. Temperature of Indian house 70° to 75° by night, 75° to 85° by day. Mexican house 65° to 70° by night, 70° to 80° by day.

Orchids that may be in bloom in June.

—*Acineta Humboldtii*; *Aerides crispum*, crispum Lindleyanum, crispum pallidum, crispum Warneri, Fieldingii, Larpentæ, maculosum, maculosum Schrederi, M'Morlandi, nobile, odoratum, odoratum cornutum, roseum, Veitchii, virens, virens superbum; *Angræcum caudatum*; *Anguloa Clowesii uniflora*, *virginialis*; *Arpophyllum cardinale*; *Barkeria melanocalon*, *spectabilis*; *Bolbophyllum Henshallii*; *Brassia Lanceana*, *Lawrenceana*, *maculata major*, *verrucosa*, *verrucosa superba*, *Wrayæ*; *Broughtonia sanguinea*; *Calanthe furcata*, *Dominii*, *masuca*, *veratrifolia*; *Cattleya Aclandiae*, *amabilis*, *citrina*, *Edithiana*, *intermedia violacea*, *labiata picta*, *Lemoniana M'Morlandii*, *Mossie*, *quadricolor*, *Schilleriana*, *superba*, *Wagneri*, *Walkeriana*; *Chysis Limminghii*; *Cælogyne Lowii*; *Coryanthes macrantha*, *maculata*; *Cycnoches barbatum*, *chlorochilum*, *ventricosum*; *Cypripedium Lowii*; *Dendrobium calceolare*, *cretaceum*, *Devonianum*, *Falconerii*, *longicornum majus*,

transparens, tortile; *Dendrochilum filiforme*, *Epidendrum alatum majus*, *cinnabarinum*, *crasifolium*, *verrucosum*, *maculatum grandiflorum*; *Galeandra Banerii*; *Huntleya meleagris*; *Laelia Brysiana*, *elegans Dayii*, *elegans Warneri*, *flava*, *grandis*, *purpurata*, *purpurata Williamsii*; *Odontoglossum citrosimum*, *hastilabium, nævium*; *Oncidium ampliatum majus*, *bifolium*, *divaricatum*, *longipes*, *luridum gut-*

tatum, *phymatochilum*, *pulchellum*, *pulvinatum*, *pulvinatum majus*; *Peristeria cerina*; *Phalænopsis grandiflora*, *umbellata*; *Saccolabium ampullaceum*, *curvifolium*, *guttatum*, *guttatum giganteum*, *premorsum*, *retusum*, *Wightianum*; *Schoenburgkia tibicina*; *Sobralia macrantha splendens*; *Trichopilia coccinea*, *crispa*; *Vanda cristata*, *Roxburghii*, *terres*; *Warrea cyanea*, *tricolor*.

TO CORRESPONDENTS.

CLIMATE OF ARGYLLSHIRE.—In the May number of the *FLORAL WORLD*, under the head "Climatus, in Scotland," a correspondent notices that he has a plant of it in bloom in open-air. I, too, have a beautiful plant which has stood several winters, and is now very full of bloom. It may be interesting to your readers to learn that many delicate plants thrive well in the Highlands during winter, amongst which I have growing against the walls of my house—*Escallonia rubra*, in bloom; *Clematis azurea grandiflora*, hundreds of blooms just ready to burst; *Wisteria sinensis*, showing for bloom; also large plants of "*Azalea indica alba*," full of bloom, ready to open, and other choice varieties. The arbutus does well here, and the myrtle blooms. I have about two dozen varieties of ferns in an unprotected fernery, some of them of a tender character, and have stood several winters. [We should like to have the names of them.] The past winter has been unusually mild, in proof of which I find many of the bedding-out-plants of last year are in perfect condition, amongst which are several varieties of *salvias*, *cinerarias*, *lobelias*, *cupheas*, *scarlet geraniums*, *fuchsias*, etc. If you consider the information worthy of notice in the *FLORAL WORLD*, you are at liberty to use it in any manner you may find convenient.—I am, sir, yours very respectfully, *Sgor Bheann*. [On reference to the map it will be seen that the 56th parallel of north latitude runs through the centre of Argyllshire, but being on the western coast it derives many climatal advantages from the gulf stream to counteract the low temperature otherwise proper to a high latitude. "*Sgor Bheann*" sends us his real name and address.]

CLIMATE OF FROME.—I should like to know the effect the frost the last three

days in April and early in May had on the gardens in Dunbartonshire, if Mr. Fleming will kindly inform us. From Frome, in Somersetshire, a gardener writes, dated 1st May, "I hope you have not suffered from last night's frost like we have here. We have lost everything on STANDARD trees, pears, plums, cherries, apples, gooseberries, currants, and also blooms enough of strawberries to produce sacks of fruit if they had come to perfection. On the 4th of May I found in my next neighbour's garden a bed of heliotrope a foot high, which had been out all the winter without protection except a little earth thrown over the stools. My trocæolums are making fine shoots out of doors, having been out the winter. This fine weather has brought out hosts of grubs, etc., to attack every kind of leaf.—*A. B. S.*" [Your seedling auriculas are tolerably good for border use, but only one, and that the largest, worth keeping for pot culture. That, though remarkable large and rather coarse, is nevertheless a good self.]

AZALEA AMÆNA, PLANT DESTROYERS.—Can you tell me how to make "*Azalea amœna*" blow? I have had one plant in the open border for several years which thrives well, but I never get more than three or four flower heads of one or two blooms upon it, and this year none at all. I have raised several young ones from layers, but in the greenhouse I succeed but very little better in getting it to blossom. I am much troubled with a little insect which destroys seedling plants by eating the outside of the stem just upon the surface of the mould. It is of a dark brown or black colour, and nimble and active in its motions. It has destroyed pots of seedlings of *portulacca*, *anemone*, and this year a box of *mignonette* after it had been

outside the greenhouse for nearly a week, the other plants were destroyed in the greenhouse; the insect I have never seen on the plants, it runs about the soil, and being so nearly of the same colour is easily concealed by the particles of mould; can you tell me how to avoid its attack?—*L. M.* [We have written so much about *Azulea amena* that we supposed the subject to be exhausted. This is the first time we ever heard of any failure in its cultivation. We must suppose it is in a soil quite unsuited to its character; and *L. M.* should have added some particulars on that head. All it requires is a bed of turfy peat or bog two feet deep in a shady position, and to be left alone to take care of itself. If planted in common garden mould it can never do any good. We suspect the little black nimble insects are beetles, and probably quite harmless. The mischief is much more like the work of slugs and snails, and probably if *L. M.* will examine the plants with a candle at night, an army of small slugs will be found feasting on them. Whenever there is any mystery of this kind, cultivators should introduce lettuce plants for the vermin, and they will quit better things.]

GERANIUM SPOT.—I have taken your valuable work for two years, and now venture for the first time to ask a question. I inclose some leaves, will you tell me what is the matter with them?—*J. B.* [The geranium leaves sent are horribly afflicted with "spot," the result of imperfect drainage. When this affection breaks out it sometimes spreads to all the plants in a collection, and becomes incurable. It is invariably caused in the first instance by a waterlogged condition of the roots, or sudden chills, with damp, caused by ill-regulated ventilation, or want of fire-heat when the plants are in a sappy condition. For the future use plenty of drainage, carefully packed, so that the soil will not run down and prevent the escape of water. Place over the hole in the pot one large hollow crock, hollow side downwards, over that lay some smaller pieces, and then put in broken oyster shells enough to fill at least one-fourth of the depth of the pot, you may fill one-third of the depth with advantage. Let the soil be—sandy loam, two parts, peat one part, leaf-mould one part, all in a rough condition, well mixed, but not sifted. Attend to ventilation, keep

the plants rather dry in cold weather, and keep the house dry all the winter through, and you will never see spot again.]

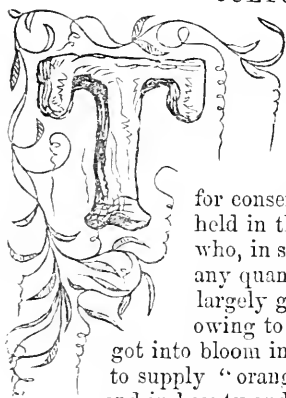
VARIORS. *V.*—Your verbenas wanted bottom-heat to give them a start after potting. It is common enough for people who work without the aid of artificial heat to lose all their plants in spring, through re-potting them. In future, if you succeed so well in keeping your plants through the winter, leave them alone till quite the end of April or beginning of May; indeed you might have left yours alone till time to plant them out.—*T. Gallimore.*—The flower is that of *Amaryllis longifolia*. The leaf is of one of the varieties of *Lilium lancifolium*, which has been subjected to unusually bad treatment to be infested with mealy bug, for as a rule these lilioms enjoy quite an immunity from vermin. Your plants have surely been coddled; sponge the leaves with soap and water, then syringe, and as soon as the plants are tolerably dry from the operation, put them out in a cold frame, on a bed of cocoa-nut dust.—*S. forza.*—If you will try and write a short letter, and say on what particular subject out of the fifty or more enumerated in your communication, we will give it our best attention. If your plants die before our next number appears, you must not blame us for withholding information, but yourself for sending a letter which consumed half an hour to read it, and was then unintelligible. There is no task we so much enjoy as attending to correspondence, but long letters are like east winds, they chill the very marrow in one's bones.—*J. F.*—The tan catching fire does not seem to need explanation. The fogging off of the plants was owing to the bed being too damp and too cold; whenever this begins raise the heat and sprinkle the bed with silver-sand or peat dust. Such a place ought to strike cuttings, and will when you get used to it. You had best resort to dung-heat, the cost is little. You cannot do much in gardening without manure. The best book for you is the **FLORAL WORLD** itself; if you procure the complete set of six volumes, you will have plenty of advice on hot-beds, frames, etc.—*Newark.*—The shrub is *Euonymus Americanus*—the blue flower a *Pulmonaria*, the yellow *Doronicum calabricum*.

THE
FLORAL WORLD

AND
GARDEN GUIDE.

JULY, 1863.

CULTURE OF GARDENIA.



THE Gardenias are known best under the general designation of Cape Jasmines, and are valued for their elegant, sweet-scented flowers, and their free, shrubby, substantial habit of growth. They are eminently adapted for conservatory and greenhouse decoration, and are held in the highest esteem among growers for market, who, in spring, can always make sure of good prices for any quantity of Gardenias in bloom. *G. radicans* is largely grown for market, and is sold at a cheap rate, owing to the ease with which it may be multiplied and got into bloom in a small state. *G. citriodora* is largely grown to supply "orange blossoms" for weddings in early spring, and in beauty and fragrance its blossoms surpass those of the orange. Notwithstanding that the Gardenia has so many good points to recommend it to the attention of amateur gardeners, it is not so often met with in mixed collections as it should be, through the prevalence of an opinion among gardeners that without the aid of good stoves it is impossible to grow any of the species. It has been our privilege on many occasions to show how some of the most highly-prized stove-plants may be successfully managed in an ordinary greenhouse, and we shall now be able to place some of the best species of Gardenia within the reach of such of our readers as have nothing better than a greenhouse and a few frames for all their practice in the culture of tender plants.

BOTANY AND USES.—In the Natural system, the order *Rubiaceæ* is appropriated to the plants of the madder family, including the Cinchonas, Gardenias, Coffeas, Woodroofs, and other allied plants, the majority of which produce an astringent bitter principle variously used in medicine. The order is one of the most important in an economical point of view, as from its members we severally obtain Peruvian bark, coffee, ipecacuanha, yellow and scarlet dyes, and "simples," which have some repute with the herbalists. The order is nearly allied to *Compositæ* and *Caprifoliaceæ*,

though sufficiently distinct from both to occasion no perplexity to the botanist. The plants composing the order are mostly trees and shrubs, with entire, opposite leaves, hermaphrodite flowers, a tubular calyx, corolla monopetalous, inserted in the summit of the tube of the calyx in four or six divisions, the stamens alternating with the lobes of the corolla, ovary inferior, and the fruit a capsule or berry with two or many cells, and the cells one or many seeded. They are mostly tropical plants, but extend to the regions bordering on the tropics, and are there very abundant. The tribe *Gardenieæ* comprises a considerable number of useful and beautiful trees and shrubs. The timber of a hard-wooded tree called *Burchellia capensis*, is much prized at the Cape, and locally known as Büffelhorn. *Mussaenda landia* is used in the Mauritius as a substitute for Peruvian bark: *Genipa marianæ* in Surinam, and *G. esculenta* in Cochin China, are valued for their edible fruit; *G. Americana* is cultivated in many parts of South America for its fruit, which is as large as an orange, and contains a rich vinous pulp. All the true Gardenias are applied to useful purposes in the countries where they are natives. *G. Florida* and *G. radicans* are grown as hedge plants in China and Japan, and the fruits are used both for dyeing and for medicinal purposes.

STOVE GARDENIAS.—When grown in the stove, damp and shade are very essential, and the most important matter of all is to give them a good start in spring. The proper soil for all the species is a mixture of equal parts loam from rotted turves, fibrous peat, and silver sand, well mixed and rather rough, the nodules of turf being the size of walnuts, and the finer and more sandy parts of the compost being used to fill in next the roots. They should be repotted annually after flowering, the old soil being in great part shaken away, and the plants returned to the same pots, or at least only one size larger, in the fresh compost, which must be pressed in firmly after repotting; place them on a bed of fermenting dung, leaves, or tan, and supply plenty of water till they have completed their seasonal growth; then remove them to a stage or slate platform, and let them go tolerably dry and have the help of sunshine to ripen the wood. Keep them tolerably dry and cool all winter, and in spring place on a moist heat, but the pots should not be plunged, and they will flower abundantly. Pruning should be performed immediately the bloom is over, but as a rule they do best without pruning, as they have naturally a neat shrubby habit. We subjoin a list of the most valuable stove species.

Armata, native of West Indies, forms a handsome spinous tree, ten or twelve feet high, white flowers in July, requires the stove, and needs special care only after repotting.

Devoniana, native of Sierra Leone, forms a handsome shrub, six feet high, and produces white flowers in August. Requires the stove.

Latifolia, native of the East Indies, produces lemon-coloured blossoms in May. This may be grown in a warm greenhouse by the method described below, but as a greenhouse plant will not bear any neglect or it may be lost.

Lucida, also a native of the East Indies, has shining leaves, and produces its white flowers in June.

Nitida is a diminutive species from Sierra Leone. It attains a height of two and a half feet, and by occasional stopping may be made very dense and bushy. Its usual season of blooming is October, but by retarding it may be turned to good account for flowers in the depth of

winter, as it needs warmth more than light to bring it into bloom. The flowers are white.

Stanleyana, native of Sierra Leone. It is a very handsome shrub, and attains a height of six feet. The flowers are white with red spots, and are abundantly produced in June.

Fortuni, native of China, introduced by Fortune, is one of the noblest stove Gardenias, and indispensable to a good collection. As this may be managed without the aid of a stove, the culture will be more particularly described under the section of greenhouse treatment.

Other useful stove species are *cumpanulata*, *dumetorum*, *fragrans*, *longistyla*, *melleifera*, *montana*, *pavetta*, and *Sherbourniae*.

GREENHOUSE GARDENIAS.—These must have similar treatment to the stove species, for if kept in the greenhouse with other plants the whole year round, and subjected to the ordinary treatment of such plants, they become infested with fly, and never bloom satisfactorily. It is absolutely necessary to force them into bloom with a moist heat, and after blooming to prune them in if needful, and then promote new growth by the same process as was used to bring them into bloom. Generally a frame placed on a sweet bed of fermenting dung answers to perfection, the moist ammoniated atmosphere giving the foliage its proper freshness and beauty, and helping out the flowers freely. If potted properly in the first instance, they may be flowered twice without a shift, and after shifting must be forced into growth as described above for the stove species. When the growth is completed, with the aid of frame-heat, they may be removed to the greenhouse, and be fully exposed to light all the autumn and winter, and have plenty of air while the temperature is above 50° during winter. They must be kept rather dry, or they may rot at the collar, and the temperature should never sink below 40°. In spring they must be again placed on a moist bottom-heat, and kept rather close to bring them into bloom. When in the forcing pit the pots should not be plunged. Sometimes when kept in a poor state in the greenhouse they become infested with fly; the remedy for this is first to cleanse them of fly by brushing the under sides of the leaves, and then to induce root action by a brisk moist heat, with frequent syringing. Plants that have been well treated in the early part of the season may, when their growth is completed, be put into a cool pit in June, and in July may be set out in the open air till September, and then be housed for the winter. Unless required in bloom very early in the season, it is best to wait till February before putting them in heat to bloom, as they will then complete their growth by June, and occasion less trouble than if started earlier. All the greenhouse kinds are adapted for flowering in the stove. They are all propagated from cuttings of shoots half ripe, in sand under bell-glasses, on a moist bottom-heat of 70°. The majority strike readily, but there are a few very difficult to propagate. We subjoin a list of desirable greenhouse kinds, with remarks on culture where necessary.

Amœna, native of China, grows four to five feet high, and forms a pretty shrub. Flowers white, having the lobes purple outside where exposed to the air. This is one of the hardiest. The season of flowering is July. It should be kept in a shady part of the greenhouse, and have plenty of water from May till August.

Angustifolia is a small narrow-leaved species with white flowers;

it is not in great repute, but it is worth a place in a large collection.

Florida is a native of China, and is largely cultivated in Japan and the East Indies. This is a fine shrub, growing to a height of six feet; the flowers are white and very fragrant. There is a variety with double flowers nearly as large as a rose. This is one of the most desirable species, and worth all the care it requires to grow it successfully. It is, however, inferior to *G. radicans*, as it grows taller, is scarcely so profuse in bloom, and does not last so long. This is a difficult species to propagate, and we shall therefore give special directions for its increase. Early in April the plants ought to be full of young shoots, from which cuttings may be taken. First prepare some five-inch pots by half filling them with potsherds and then filling to the rim with a mixture of equal parts of peat and silver sand, broken up and blended together with the hand. Press this firm, and make it moderately moist. Prepare the cuttings by taking off the tips of the young half-ripe shoots an inch and a half long, cut them immediately below a joint and remove the lower leaves, then insert them *firmly* an inch deep and an inch apart, the outside row next the side of the pot, give them a sprinkle and place the pots on a sweet hot-bed and shut them up and shade. If kept moderately moist and shaded they will be well rooted in the course of three weeks, when they must have air by degrees for a week, and then be potted separately. Pot them in sixty-sized pots with plenty of drainage, and the soil equal parts of peat, turfy loam, and silver sand. Water them and place them again on a moist heat and shade for a week, by which time they will have begun to grow and may have more light, but must still be shaded at midday and have a little air. By the end of June they will be fine plants and will require a shift. Pot them in forty-eight sized pots, using peat and loam one part each, and a half part each of leaf and sand. The pots must be well drained and the plants must be potted *firm*. Plunge them again in a brisk bottom-heat and shut close for a few days, then give light and air by degrees, and they will soon begin to show their flower-buds. The appearance of these will be the signal for removing them to the greenhouse, where they may remain in a temperature averaging 45°, till it is desired to bring them into flower. To bloom them proceed as before directed, placing them on a bed of fermenting material, syringe frequently and give *no air*. If they are not in full vigour help them with manure water, made by steeping sheep's dung in a tub, use this clear, weak, and warm. As soon as the flowers open remove to a warm greenhouse, where they will continue in bloom several weeks. After flowering prune, repot, and place again in heat.

Radicans, native of Japan, growing two feet high, is invaluable for its free-flowering dwarf habit and the ease with which it may be propagated and flowered. It is grown by thousands for the market on the plan already described for the management of other species in a dung-bed, where it is as much at home as in the best stove. The best season to propagate this is October, and the process is the same as just described. One reason why this has become so popular as a market plant is, that cuttings struck in autumn, and then shifted into sixty-sized pots and pushed on in dung-heat the following spring, flower freely, and so bring a return in less than six months. The amateur will have no difficulty in growing this if the rules already laid down are carefully observed, the

plants being put in the frame in February, removed to the greenhouse when in bloom, then pruned and repotted and placed in heat again, and after gradually hardening put in a cool pit till the middle of September, when it must be housed for the winter.

Fortuni, native of China, makes a superb specimen; the flowers are three inches across and the plant grows to a height of six feet, with a naturally pyramidal form and bushy habit, so as scarcely to require any pruning. This will not comply with ordinary hot-bed management, and when grown in the greenhouse a bed should be made for it the warmest end of the house, either by putting tan over a tank or pipes, or by introducing well-worked fermenting dung. In foliage, flower, and fragrance it is one of the most beautiful shrubs we possess. It may be readily propagated from cuttings of the half-ripe wood when grown by the method already described. Unless this can have the warmest place and the help of bottom-heat in a good greenhouse it must not be admitted at all. In a moist stove it attains perfection, and it ought to be found in every stove where caladiums and begonias have a place, as the atmosphere which those plants require will suit this admirably.

Citriodora is exquisitely fragrant, and the most prized of all as a substitute for orange blossoms. When treated in the same way as described above for Florida and radicans it blooms profusely, and in a damp stove it is invaluable.

SCOLOPENDRIUMS.

If a lover of ferns were to ask for any particular family which would best pay to grow in quantity and variety, I should certainly say select Scolopendriums, because of their hardiness, their numerous beautiful and curious forms, and their generally evergreen habit. The common hart's-tongue, *Scolopendrium vulgare*, is one of the most beautiful of all ferns, and especially valuable on banks and rockeries, to give relief, by its broad, shining, and verdant fronds, to the finely-cut outlines of Lady ferns, Lastreas, and Aspleniums; and when aged and strong, it has a true grandeur about it peculiar to itself. What a pretty sight it is one gets by peeping underneath its leathery tufts in autumn, when the fronds are barred with spores in rich brown oblique lines; and how charming it is to see the fronds arise in spring like productions in waxwork, while the growth of the previous year is perhaps still green, as it is generally if we have had a mild winter. *Scolopendrium vulgare*, the common hart's-tongue, is the most distinct of all the British ferns, as *Lastrea f. m.* is the most elegant. It has this peculiar adaptability to garden uses that it will grow in any soil and any position, that if neglected it is always beautiful, and if treated with skill it always makes a liberal return; and, by the way, it is astonishing to what a degree of luxuriance the common hart's-tongue will attain if really cultivated and made a pet of.

When planted on a sloping bank of turfy loam or loamy clay in full shade, and regularly sprinkled all through the growing season, the fronds will attain a height of three feet and a breadth proportionate, and the huge crowns will have quite a bird's-nest appearance in the midst of the surrounding fronds, as if inclosed in a basket. It is one of the ferns least able to endure the pernicious effects of town smoke, but it may

nevertheless be grown to perfection in the smokiest places, by giving it a daily washing by means of the syringe. But in any case the hart's-tongue should always be grown on shady damp slopes, where it can be drenched with water without ever becoming water-logged. When grown in pots there should be for the same reason plenty of drainage very carefully packed, and it should be potted in friable loam, the more fibrous the better, but there need be no admixture of sand or charcoal; for this fern loves to root in firm, nourishing material, and is never luxuriant when grown in a poor soil.

There is no fern so easily increased as this. If left alone it forms distinct new crowns beside the original, which may be removed by means of the knife; and if it is needful to propagate before the crown has so extended itself, the original crown may be cut in half without any fear of the loss of either. The best season for dividing is when the new fronds are just beginning to start in the spring. Then take up the plant without injuring the roots, or turn it carefully out of the pot, as the case may be. Lay it on the potting board, and insert a sharp strong knife between the rising fronds, so as to separate them fairly into two or more parts, with a good centre to each. Pass the knife downward towards the roots, but as soon as it has fairly cut through the caudex withdraw it, so as to avoid cutting the fibrous roots through, which would waste a large portion of them. Having really separated the caudex, disentangle the roots belonging to each portion with the hand, so as to save a good bundle to each division. As they interlace so freely, the passing of the knife through them would destroy the greater part, and render it difficult to make good plants of the divided portions. It is best always to pot the divisions in as small pots as the roots can be got into without shortening them severely, and generally 60-sized pots suffice. In these put one-third drainage, and fill in round and amongst the roots with a mixture of peat and sand, or loam and sand, or clean leaf-mould. The crown should be raised slightly above the level of the soil in the pot, and on the surface of the soil silver-sand should be sprinkled. Water these, and shut them up in a frame, and cover with shading. Some weeks will elapse before they begin to grow freely, during which time they must have very little water; but the inside of the frame should be frequently sprinkled, to maintain a moist atmosphere about them. As soon as the fronds begin to rise freely, admit a little air and increase the supplies of water; and when the roots begin to push through the bottoms of the pots, shift to 48 size, and use firm, turfy loam, or a mixture of loam and peat without sand, and place them anywhere in the shade, where they can be abundantly supplied with water.

To some of our readers who have forests of ferns that occasion no trouble at all, such directions as those just given for the increase of hart's-tongues may seem very superfluous. But when we have to deal with hart's-tongues worth a guinea apiece it is another matter, and the fern collector must be an adept in managing the commonest, and know all the ways of propagating such as may be had for nothing, in order to apply this knowledge to the increase of varieties of great value. This process of division is the simplest way of propagating hart's-tongues; but it is of use only to a certain extent, and if we cannot divide we must resort to another and more difficult method of increasing them, and that is *by cuttings*.

Every fern grower should practise the propagation of these ferns from cuttings, in order to have at command the means of increasing the choicest of the varieties, as well as for the mastery of all the mysteries of pteridology, and so we will have a word upon that subject. When a *Scolopendrium* has at its base a number of old brown fronds just green at the base, but dead at the tips, it is in the best condition to furnish cuttings. The only nice point in this operation is the way the cuttings are made. If you simply cut off the old frond with a portion of the stipes or stalk, you can never get a plant from it; but if the stipes is taken away complete *with a portion of the rind of the caudex attached*, a very moderate amount of care will convert it into a plant. First select an old frond still green at the base. Next run the finger down, so as to remove the earth from that part of the caudex from where the stipes proceeds. Now insert the knife just below the point where the stipes springs from and pass it gently upwards and out again above the base of the stipes, and you will have with the frond a portion of the caudex. Now with a pair of scissors clip off the frond within one inch of its base, so that you have attached to the stipes the cordate portion of the frond which is still green. Lay this prepared cutting on some wet moss, and proceed to make as many more like it as you can get. When all are ready dibble them tenderly into a well-drained pan, filled up with a mixture of fine peat and sand, water them in, cover with a bell-glass, and place on bottom-heat of not less than 60° and never higher than 70°. They ought all to stand upright like any other kind of cuttings, and the base of the stipes with its attached scrap of caudex should be below the surface of the soil. In the course of time little crowns will appear, for there is really a dormant germ of a crown at the base of every stipes, just as at the base of the leaf stalk of an endogenous tree we have a bud that can be converted into a plant. When these little crowns appear give a little air or they may rot; supply water very moderately; keep shaded, and as soon as one new frond is fairly open pot them all in thumbs with a mixture of one-third sand and two-thirds peat, and place them in a moist heat with shade, and they will soon be good plants.

There is yet another way of propagating without resorting to spores, and that must also be done in early spring. When the plants are just about to commence their spring growth take a knife with a sharp point, and if the variety is diminutive use instead a large pin. Carefully prick out the centre of the crown, and then wait the result. After this operation the plants should be kept warm and have water only moderately, for fear the crown should rot; but they must never go dry. After a time the energies of the plant will be directed to the development of side crowns, and the business of the propagator will be to remove these, pot them carefully, and coax them into independent growth. But they must not be removed till they have acquired sufficient strength, and with slow growing varieties it is often necessary to wait till the next season before they can be divided, and then they will usually supply a number of good offsets.

Now the reason why it is worth while to say so much about *Scolopendriums* is that our common British species has been more prolific of varieties than any other fern known. Mr. Sim of Foot's Cray catalogues thirty-nine varieties, Messrs. Ivery of Dorking thirty-three, Messrs. Stanfield and Sons of Vale Nurseries, Todmorden, near Rochdale, Lancashire, have eighty-five varieties. As with sports of other plants some of these

varieties of *S. vulgare* are more curious than beautiful; but, as a rule, it is hard to find one that would not either delight us with its beauty or create more than a passing interest in its strange departure from the normal type. I can imagine no more agreeable task for a lover of ferns than collecting all these varieties in duplicate, one set in pots and another set planted out on a rockery in a shady greenhouse heated sufficient to keep out frost in winter, and to give the collection a start in spring. Those who know the inner recesses of Messrs. Veitch's Nursery at Chelsea, will understand upon this hint what an exquisitely beautiful feature a collection of *Scolopendriums* would be planted out under glass, so that we could view at least a hundred distinct forms of vegetation, and know that all originated out of the common hart's-tongue of the hedgerows, and we are still capable of producing yet other distinct forms by influences to some extent at the discretion and under the command of the



cultivator. I happen to have a very good collection of these fanciful ferns, and I must say they afford to me and my friends more positive pleasure than any other of the beauties of the great fern family.

It may be that our fern-growing readers will like to learn which of the varieties are most to be desired for distinctness, and it is to help our friends in selecting that I have had the accompanying sketch made of a few of my own specimens. First of all I shall name for real beauty and a free growing habit *Crispum*, which is much like the normal form in its general outline, but more stiff and erect, and beautifully waved and crisped from top to bottom. This is of a more yellowish green than the species, and is always barren. This is seen in the group at figure 4. Next we will have *Aleicorne* (5) which Messrs. Stansfield appear to have exclusive possession of, if we are to be guided by catalogues. My

plant of this is one of the noblest I possess. Some of the fronds measure two and a half inches across, and they have two distinct forms, one not greatly different to the species; another breaking at the summit into huge bifid or trifid segments or stags' horns. This is a very bold and striking variety, and of the very best habit for planting out on a bank either under glass or in the open-air fernery.

The fronds have a fresh green hue, and are all more or less fertile. Another of this class is called *Polyscupis undosum*, that is, with many cusps and wavy (1). Here the fronds all terminate in twisted horns, so beautifully as to appear crested, and in fact it might have been named *cristatum* with great propriety. This is smaller and neater, and more uniform than the last, and is quite a gem for pot culture. But the name *Cristatum* is better applied to 3, which makes a charming companion to *polyscupis* for pot culture. This *cristatum* grows nearly erect, the fronds are wavy, cordate at the base, and at the summit spreading into broad semicircular fans. This is a gem in its way, does not attain any great size, has a lovely green hue, and is always barren. Now, we come to the finest of all the crested scolopendriums, and the prettiest fern known for a pot specimen or to plant out on a shady bank. This is called *Ramo-marginatum*, and as you see by its portrait, it is a gem of gems, a paragon. This is of medium growth, though very vigorous, and it throws up such a number of its curious and elegant fronds that it soon forms a specimen arching over on all sides equally, and its characters are remarkably persistent and uniform. The usual type is a frond contracted through two-thirds of its length, and in this contracted portion crenulated; it then suddenly spreads into a broad semicircular fan, deeply notched and crisped, and the divisions so abundant that they overlap and add a tone of richness to the most curious of all fern developments. Sometimes the fronds divide into two or three forks each, terminating in a fan; they are all barren, and the colour is a fresh lively green.

Now we come to two which are nearly alike, but both desirable. *Marginata papillosum* (2), is one of Stansfield's varieties. It is not a strong grower, but it is very peculiar. The fronds are narrow, and nearly the same width throughout; at the base they form a double crescent, the usual cordate form being exaggerated, and the result is a most beautiful and unique outline. From the base to the summit they are crenulated so as to appear as if some embroidery work had been laid on, and this deception is aided by their remarkable thickness of texture. There is in fact a sort of double surface development owing to the constriction of the bases of the wavy edges; the result is that the frond appears to be covered with something between freckles and pimples, and between the fingers it has a coriaceous feel, and this leathery texture makes it robust and stiff,



SCOLOPENDRIUM VULGARE RAMO-MARGINATUM.

and characteristic. This variety is

moderately fruitful. *Marginatum* (7) is in all the catalogues, the fronds are scarcely an inch wide, uniform in width throughout, texture rough like the last, regularly crenulated, and underneath there is a skin-like line which breaks out into seed-bearing excrescences. It is very handsome, and makes a fine specimen either in pot or planted out. *Multifidum* is worth having, but less so than others we have named. The fronds are like the species, but their points expand into three forks, flat and spreading. This, however, varies much, and to see all that it is capable of you must plant it out and wait till it gets old, then it will often amuse you with its eccentricities. *Crenulatum* is a very fine variety of robust habit, and richly waved on the margin. *Angustatum* grows tall and erect, with narrowish fronds elegantly waved throughout, and is very beautiful, though not very curious. *Polyschides* introduces us to the class of diminutive *Scelopendriums*. Here we have narrow, dark green fronds, deeply and irregularly notched.

Proliferum is a diminutive of *marginatum*, growing less than two inches high, and the fronds often awl-shaped, or consisting of the rachis only, others slightly expanded, and bearing little plants; this requires a very damp, shady place, and best in the open air. *Viv-marginatum* (6) is the most curious of all these diminutive kinds; the tiny fronds are sometimes denticulate their whole length; others divide at the summit into three or four horns, and they are all of a dark green hue; it is quite a curiosity, and very interesting. If these are not enough for a selection, I shall add *Cornutum*, of which I have a fine plant, very dwarf, coriaceous, with crenate and undulated fronds, which terminate abruptly; this is diminutive, and the colour a very dark, bluish green. *Laceratum* is one of the grandest of all, the fronds broad and frilled their whole length, and at the summit spreading into a fine frilled fan, which sometimes assumes most elegant cycloid outlines. Take also *Digitatum*, which has the stipes branched, and the fronds ending in broad, flat fans of great size; *Fissum*, a large edition of polyschides, with deep marginal clefts, and very luxuriant in habit; *Macrosorum* between *marginatum* and *polyschides*, slightly branching, and the colour a rich deep green; *Rugosum* with pouched fronds and deeply-cut margins, and with spines on the midrib; *Bimarginato multifidum*, with raised veins, forming pocket-like holes on the surface, and the point of each frond twice forked, and terminating in multifid fans; and lastly *Glomeratum*, which grows for a short length like the species, then breaks out into a dense globular mass of divisions three or four inches in diameter, one of the most elegant and remarkable of the whole of this strange family.

You will gather from these notes that we use these monsters for shady rockeries out of doors and rockeries under glass, as well as for pot specimens. But I must tell you that my better half, who is an inveterate fern fancier, has them planted in Pickard cases, and they seem to like the close atmosphere of those contrivances as much as any fern so managed. But the newest of all the contrivances for fern culture has recently been appropriated to the diminutive varieties. Messrs. Rosher, of Kingsland Road Wharf, N.E., are offering pretty pillars of porous clay, which are fitted with small shell-like projections for the reception of ferns, and in one of these we have a very pretty collection of the smaller kinds of *Scelopendrium* varieties under a large bell-glass, and they are doing remarkably well. These fern pillars have been exhibited at the Regent's

Park and Kensington Shows, and have created quite a sensation among lady fern cultivators. We shall have to say something about them hereafter, but for the present it is at least but just to our readers to name the matter, and bid them look out for an example at the flower-shows, for it is unquestionably the most elegant and effectual method ever yet devised for the culture of ferns in rooms under glass.

SHIRLEY HIBBERD.

FLOWER SHOWS OF MAY AND JUNE.

CRYSTAL PALACE, MAY 23.—This show was in every respect excellent, and was visited by a great number of persons. The plants were arranged on stages upon either side the nave, and were judiciously placed, running almost the entire length of the building. *Orchids* were exhibited in large numbers and fine bloom; Mr. Baker, gardener to A. Basset, Esq., Stamford Hill, had a fine specimen of *Dendrobium macrophyllum giganteum*, with three large spikes of bloom, which were supported by stakes stuck in a pot below; also *Anguloa Clowesii*, *Ærides odoratum coronatum*, with ten spikes of bloom, and *Saccolabium retusum* with six spikes. Mr. Bullen, gardener to A. Turner, Esq., Leicester, had *Ærides odorata major* with nearly forty spikes of bloom, and nice specimens of *Calanthe veratrifolia*, *Cattleya mossiæ*, *Ærides Lindleyana*, and *Anguloa Ruckerii*; Mr. Wiggins had beautifully-bloomed plants of *Saccolabium guttatum*, *Ærides crispum*, *Æ. Larpentæ*, *Æ. Fieldingii*, *Æ. Schoderii*, and *Dendrobium densiflorum*. Messrs. Jackson and Son had a very fine *Phajus Wallichii* and *Cattleya mossiæ aurantia*, besides *Dendrobium Devonianum*, *Cypripedium barbatum superbum*, *Vanda suavis*, and *Lælia purpurata*.

Cacti.—A nice lot of six was from Mr. J. Green, they were well flowered and creditable; *Epiphyllum speciosa elegans*, *Jenkinsonii multiflora*, *Speciosa coccinea*, *Greenii*, *rubra cerulea*, and *crenatum*. *Variiegated Plants*.—Mr. Chas. Hutt, gardener to Miss Burdett Coutts, had immense specimens of *Cibotium Schiedei*, *Alocasia metallica*, *Maranta albo lineata*, *Rhopala de Jonghi*,

Tritania borbonica, *Pandanus Javanicus variegatus*, *Croton variegata*, *Yucca variegata*, and *Diffenbachia variegata*. Messrs. J. and C. Lee, of Hammersmith, had beautiful specimens of *Dracæna Australis*, *Theophrasta imperialis*, *Alocasia metallica*, *Pandanus utilis*, *Yucca aloifolia variegata*, *Cordyline indivisa*, *Cyathea Smithii*, *Dracæna Rumphii*, *Cibotium princeps*, and *Ananassa sativa variegata*.

Stove and Greenhouse Plants were shown in great numbers, and in such excellent condition that they left nothing to be desired either in training or blooming. Mr. Peed, gardener to Mrs. Treadwell, Lower Norwood, was first with fifteen and eight plants; the best were *Chorozema rotundifolia*, *Erica Cavendishiana*, *Pimelia decussata*, *Epæris miniata splendens*, *Tetratheca ericeifolia*, *Azalea Criterion*, *Chorozema Lawrenceana*, *Pimelia spectabilis*, *Ixora alba*, *Azalea Murryana*, *Polygala acuminata*; Mr. J. Green showed excellent specimens of *Stephanotis floribunda*, *Aphelexis macrantha rosea*, *Francisca calycina*, *Hedera macrostegia*, and *Dracophyllum gracilis*. The other plants of note were *Acrophyllum venosum*, *Aphelexis macrantha rosea*, *A. spectabilis grandiflora*, *Leschenaultia biloba major*, *L. intermedia*, *Polygala Dalmaisiana*, *Boronia serrulata*, *Adenandra fragrans*, *Erica Albertus superba*, *Dillwynia splendens*, *Adenandra uniflora*, *Boronia Drummondii*, *Hoya bella*, *Rhinehospermum jasminoides*, and *Aphelexis rupestris grandiflora*.

Azaleas were the chief attraction, the finest coming from Mr. Charles Turner, of Slough, who took first

prizes for ten and six plants. Mr. Thomas Page was next. The principal varieties were *Admiration*, *Extranea*, *Variegata*, Sir C. Napier, *Arborea purpurea*, *Magnificent*, *Gem*, *Glory of Sunning Hill*, *Alba magna*, *Juliana*, *Murryana*, *Mary*, *Criterion*, *Perryana*, *Optima*, *Iveryana*, *Chelsoni*, *Illustris nova*, and *Præstantissima*.

Pelargoniums.—The principal exhibitors were Messrs. Turner, Fraser, Bailey, and Shrimpton, the winning plants of the show varieties were *Peacock*, *Lilacina*, *Etna*, *Empress Eugénie*, *Beadsman*, *Festus*, *Guillaume Severyns*, *Rose Celestial*, *Governor-General*, *Fairest of the Fair*, *Vestal*, *Sanspareil*, Sir Colin Campbell, *The Bride*, Mr. Marnock, *Desdemona*, *Monarch*, *Candidate*, *Bacchus*, *Lady Canning*, and the *Belle*. The fancy varieties were *Roi des Fantasies*, *Delicatum*, *Acme*, *Arabella Goddard*, *Lady Craven*, *Clemathe*, *Clara Novello*, *Cloth of Silver*, *Bridesmaid*, and *Queen of the Valley*.

Roses.—The principal exhibitors were Messrs. Lane and Son, Wm. Paul, and Chas. Turner, who all obtained first prizes. The finest plants were, *Louise Odier*, *Madame Willermoz*, Gen. Jacqueminot, *Souvenir d'un Ami*, Paul Ricaut, Chas. Lawson, *Souvenir de Malmaison*, *Baronne Prevost*, Paul Perras, *Lælia*, *Lamarque*, *Madame Chas. Wood*, *President*, *La Reine*, *Mad. Damaizin*, *Chenedole*, *Louise Peronny*, *Comtesse Mole*, *Queen*, *Catherine Guillot*, Dr. Brettoneau, *Model of Perfection*, and *Bravy*.

Calceolarias.—Mr. J. James, gardener to W. J. Watson, Esq., had the finest collection; they were seedlings of his own raising: *Maccaroni*, *Lord Clyde*, *Lord Elgin*, *Master Watson*, *Lord Clifden*, *Mr. Grove*, *Colonel Mussaly*, *Prince of Wales*, *Mr. Driver*, *Miss Smith*, and *Brilliant*.

Most of the novelties were from Mr. Bull. *Alocasia maculata* has a pretty variegated leaf, *Caladium mirabile*, *C. cannartia*, *C. Devonianum*, *Athyrium filix fœmina saggitatum*. Mr. John Horwood had a seedling Bhotan rhododendron called *Lady Cranworth*; it had white flowers, with a tint of pink.

Tulips.—Messrs. Hunt, Turner, and Tomkins, showed excellent blooms of *Bizarre 572*, *Purple Perfection*, *Vestus*, *King*, *Caliph*, *Richard Headley*, *Gem of Gems*, *Magnificent*, *Arlette*, *Magnum Bonum*, Mr. Norman, *Romeo*, *Triomphe Royale*, *Vivid*, *Heroine*, *Garibaldi*, *Maid of Orleans*, *Anastasia*, *George Hayward*, *Duchess of Sutherland*, and *Madonna*.

ROYAL HORTICULTURAL SOCIETY, MAY 27.—The first great show was held in the building for the International Exhibition. The flowers were upon stages ranged down either side of the nave, after the manner of the Crystal Palace. *Orchids* were the chief attraction, and Mr. W. Milford, gardener to E. M. Morland, Esq., Haverstock Hill, obtained first prize for a lovely collection of twenty; they were *Lælia elegans*, *L. grandis*, *L. purpurata*, *Odontoglossum nœvium*, *Lælia brysiانا*, *Ærides larpentæ*, *Æ. crispa*, *Epidendrum nigro roseum*, *Cypripedium villosum*, *Odontoglossum phalænopsis*, *Dendrobium Farmeri*, *Vanda tricolor*, *Saccolabium curvifolium*, *Cattleya mossiæ*, *Phalænopsis grandiflora*, and *Cypripedium barbatum*. Messrs. Veitch and Son were first for twelve; they had the finest *Phalænopsis grandiflora*, and beautiful specimens of *Vanda tricolor*, *Calanthe veratrifolia*, *Ærides Fieldingii*, *Cypripedium barbatum superbum*, *Odontoglossum pescatorei*, and *Cattleya mossiæ*.

Azaleas.—These were in splendid condition. Mr. Chas. Turner was first, Messrs. Veitch second, and Messrs. Fraser third. The following were in great perfection:—*Criterion*, *Extranei*, *Juliana*, *Glory of Sunning Hill*, *Chelsoni*, *Alba magna*, *Arborea purpurea*, *Iveryana*, *Murryana*, *Illustris nova*, *Exquisita*, *Triumphans*, *Trotteriana*, *Mrs. Fry*, *Broughtoni*, *Perfecta elegans*, and *Magnificent*.

Roses.—Mr. William Paul was first, and Messrs. H. Lane and Son second; the varieties were *Souvenir d'un Ami*, Gen. Jacqueminot, *Louise Odier*, *Mad. Willermoz*, *Paul Perras*, *Auguste Mic*, *Homere*, *Senateur Vaisse*, *Baronne Prevost*, *Lælia*, *Triomphe de Beaux Arts*, *Comtesse*

Mole, Louise Peronny, Paul Ricaut, Coupe d'Hebe, Chenedole, and Chas. Lawson.

Stove and Greenhouse Plants were shown in great number. Mr. Peed made the finest display with fifteen beautiful plants; the best of them were *Ixora coccinea*, *Tetralochea ericæfolia*, *Allamanda grandiflora*, *Pimelea spectabilis*, *Erica Cavendishii*, and *Allamanda cathartica*. Mr. H. Chilton showed fine specimens of *Acrophyllum venosum*, *Franciscea confertiflora*, *Aphelexis spectabilis grandiflora*, and *Polygala dalmaisiana*. Mr. Ingram had excellent plants of *Pimelea Hendersonii*, *Statice brassiæfolia*, *Stephanotis floribunda*, and *Aphelexis macrantha rosea*. Messrs. Fraser had well-flowered plants of *Clerodendron Kämpferi*, *Leschenaultia intermedia*, *L. biloba major*, *Eriostemon buxifolium*, *Adenandra fragrans*, and *Boronia serrulata*.

Miscellaneous.—Mr. Bull had a nice collection, and Mr. J. Salter obtained a second prize for a very pretty collection of hardy variegated plants, among the most striking were *Hedera helix* var., *Tussilago farfara* var., *Pulmonaria Siberica*, *Hedera latifolia*, *Symphora glomerata* var., *Hesperis arabidæfolia*, *Acer negundo* fol. var., *Heraclium spondylium* var., *Ajuga reptans* var., *Convallaria angustifolia*, *Artemisia vulgaris* var., *Rudbeckia laciniata* var., *Plantago major rubra*, *Funkia undulata* var., *F. albo marginata*, and *Hedera canariensis* var.

Novelties.—Messrs. Low and Co. exhibited a new orchid in flower, *Dendrobium parishii*, flowers crimson purple. Messrs. Veitch showed a new orchid in flower, *Phalænopsis Lobbi*, flowers medium size, white, lower lip purple. Mr. Renny, gardener to H. H. Gibbs, Esq., had *Odontoglossum uro-Skinneri*; flowers upper part blotched with dark brown, lip blotched with pink. Messrs. Veitch had *Abies firma*, and a new species of spirea. Mr. Bull showed *Dichæisandra argenteo marginata*, *Justicia variegata*, *Chamæranthemum verbenaceum*, *Anæctochilus argyrons*, *A. Dayii*, and the best specimen of *Alocasia Lowii*.

Ferns.—Messrs. Ivery and Son had

a charming collection of eighty varieties of hardy ferns; they were awarded a first prize, which was well merited.

Pelargoniums.—Mr. Charles Turner was first, and Messrs. Fraser second with both the fancy and show varieties; they were, *Fancies*, *Clemathe*, *Cloth of Silver*, *Roi des Fantasies*, *Delicatum*, *Ellen Beck*, *Lady Craven*, *Bridesmaid*, *Clara Novello*, *Acme*, *Celestial*, and *Multiflora*.—*Shows*, *Fairest of the Fair*, *Viola*, *Rose Celestial*, *Roseum*, *Empress Eugenie*, *Desdemona*, *Guillaume*, *Sunset*, *Candidate*, *Lady Taunton*, *Picnic*, *Bacchus*, *Carlos*, *Sir Colin Campbell*, *Etna*, *Mr. Marnock*, *Sanspareil*, *Saracen*, *Leviathan*, *Rose-leaf*, *Festus*, and *Ariel*.

Heaths.—Mr. Peed was first, Mr. Page second, and Messrs. T. Jackson and Son third. The principal varieties were *Erica ventricosa magnifica*, *Jasminiflora major*, *Depressa*, *Eximia superba*, *Ventricosa coccinea minor*, *Tricolor Wilsonii*, *Vasiflora*, *Florida*, *Queen Victoria*, *Cavendishi*, *Bergiana*, and *Tricolor dumosa*.

ROYAL BOTANIC SOCIETY, JUNE 3rd.—This was a very fine display; the show of fruit especially being very excellent. In addition to the usual attractions, was the excellent show of American plants by Mr. Waterer, which was a splendid exhibition of itself. The *Orchids* were plentiful and good, but were mostly the same varieties as those enumerated above, with the exception of lovely specimens of *Trichopilia coccinea* and *T. crispa*, which were from Mr. Baker. The *Azaleas* were past their best, the flowers of some being in a falling-off condition. *Pelargoniums* were excellent, the best being from Mr. Turner and Messrs. Fraser, and the varieties were the same as those given above, which may be said also of the *Roses*.

Variiegated Plants.—Messrs. A. Henderson and Co. had a fine collection of six; they were *Alocasia macrorhiza*, *Croton variegata aurea*, *Caladium chantini*, *Dracæna ferrea*, *Diffenbachia maculata*, and *Ananassa sativa aurea variegata*.

Calceolarias.—The fine seedlings exhibited by Mr. James, gardener to

W. F. Watson, Esq., Isleworth, have taken the first prize wherever they have been shown this season.

Stove and Greenhouse were very plentiful, but the only apparent difference between them and those at Kensington the previous week, was that the Allamandas were in unusually fine bloom, and made brilliant objects. *Stephanotis floribunda*, *Dracophyllum gracile*, Everlastings, *Kalosanthes miniata*, and *K. coccinea superba* were shown in excellent condition.

Fuchsias were in lots of six, but were not so fine as they will be in a few weeks.

Miscellaneous and Novelties.—Messrs. T. Jackson had a beautifully-grown specimen of the Pitcher plant, *Cephalotus follicularis*, and good examples of the lattice plant, *Ouviranda fenestralis* and *O. bermeriana*. The novelties were numerous. Mr. Ivery had a new British fern, *Polystichum angulare*. Mr. Bull had one which had not been before shown in London, *Athyrium filix fœmina coronatum*. Messrs. Veitch had *Juniperis rigida*,

a *Cryptomeria*, and a pretty-looking *Retinispora* from Japan; also *Woodwardia Japonica* and *Lastrea erythrosora*, from the same country, of the hardy evergreen class, and decided acquisitions.

Ferns.—A great number were shown. Messrs. A. Henderson and Co. had a beautiful lot of twelve exotics—*Drynaria musæfolia*, *D. coronans*, *Angiopteris erecta*, *Cibotium Schiedeii*, *Phlebodium fulvatum*, *Alsophylla Australis*, *Lastrea patens*, *Cyathea voconensis* and *Brainea insignis*. The British ferns were shown in groups of twelve, Messrs. Ivery and Son showing a lot which cannot be too highly praised. They were *Lastrea filix mas. cristata*, *Athyrium filix femina plumosum*, *Osmunda regalia cristata*, *Pseudathyrium flexile*, *Adiantum capillis veneris*, *Asplenium fontanum*, *Woodsia ilvensis*, *Polystichum angulare imbricatum*, *Hymenophyllum Wilsonii*, *Blechnum spicant ramosum*, *Trichomanes radicans*, and *Scolopendrium sculpturatum*.

ROSE GOSSIP.—No. IV.

AUTUMNAL BLOOMERS.

IN the desire to possess exhibition flowers and novelties, rosarians too often forget varieties more suitable for the usual run of amateurs, who have neither the space nor accessories at command for growing large collections. Amateurs so circumstanced should make free and hardy growth, brilliancy of colour, and profusion and frequency of bloom, their primary consideration; and though some of our choicest kinds combine these qualities, such are the exception and not the rule; while many others of equal merit as garden decorations, though inferior in properties for the "stand," are lost sight of. There are kinds also valuable from coming into flower at a time when the first efforts of the perpetuals are over, and they are preparing for a second display, which too often, however, never

comes. These sorts must be looked for among the Bourbons and Noisettes, deficient, perhaps, in size and symmetry, but nevertheless charming as denizens of the borders, affording the luxury of a fragrant bouquet when roses are really a treasure. The chrysanthemum has attained its popularity more from the period at which it comes into bloom than from its intrinsic beauty; yet there are not a few roses which flower quite as late, and better withstand the influences of an unfavourable autumn. Any one visiting the nurseries in November to select plants for lifting from the rose beds, can scarcely fail to remark some kinds full of flowers, or of buds which only require a few days of open weather to arrive at maturity. Such are the kinds for amateurs to select, and such, I be-

lieve, are lost almost every year; among the old sorts from neglect, among the novelties from want of a fair trial in consequence of a deficiency in mere exhibition qualifications during their first season. It is not such a brief process to thoroughly prove roses. Different soils, situations, atmospheres, and stocks are necessary to be tried. Many varieties require time and culture to become acclimatized here, or to recover from the severe checks attendant upon rapid propagation. The Duchess of Norfolk, still a most valuable rose, is one notable instance of this, which would have been lost but for the patient perseverance of Mr. W. Wood. Some again by no means keep up to their apparent character as displayed on their first appearance. However, the influx of novelties is so great in this age of steam, that nurserymen have not time to experiment upon varieties that do not become famous in a single season. It has often struck me that it might not be a bad speculation to submit some of the rejected to a further test. Skilful cultivation might develop them into decided acquisitions. Whether this is not sometimes done, and the kinds brought out again under different names is, perhaps, a moot question.

The following list of *free* and *autumnal* bloomers, irrespective of all other considerations, is selected as the result of my own experience and observation; if in sufficient quantity, they will keep the beds and borders furnished throughout the season. In the first-named section are some of the most general favourites grown. No number of such that space will allow is too many for the amateur to have, who wishes to revel in the fragrant beauties himself, or to bestow ever welcome bouquets upon visitors and friends.

Among the H. P.'s, General Jacqueminot must take the lead for its persevering habits, and many of its offspring partake of that desirable qualification. Venture not, however, upon "Santhenay," which is undoubtedly shy. Victor Verdier is scarcely second in flowering up to

the last. Next follow Anna Alexieff, Madame de Cambaceres, Madame Domage, Chabriland, Maria Portemer, Triomphe des Beaux Arts; Vainquer de Solferino, though much given to mildew, and Geant des Batailles, which needs a good situation to be worth anything at all. Of the Bourbons, Queen, Souvenir de la Malmaison, Apolline, Pierre de St. Cyr, and Dupetit Thouars, are the freest and latest; and Gloire de Dijon, Devoniensis, and Narcisse among the Teas. Gloire de Dijon requires somewhat peculiar management to develop its utmost capabilities. The shoots should be stopped at eighteen inches or two feet, when it will throw out laterals, nearly every one of which will flower. Not quite so continuous as the aforementioned, but still to be depended upon for a series of bloom, are H. P.'s Jules Margottin, a superb rose; Senateur Vaisse, another gem, superior to Jacqueminot as a flower, though not quite so continuous; Marie Dauvesse, Mons. Montigny, Mons. Ravel, Therese Appert, Pæonia, Madame Eugene Verdier, scarcely appreciated; Duchess of Norfolk, Pauline Lanzeur, Madame Knorr, Pius IX., Madame Laffay, Baronne Halley, Baronne Prevost, Jean Bart. Bourbons—Catherine Guillot (Is this a Bourbon?), Justine, Le Llorifere, Prince Albert, Paul Joseph, George Peabody, Bouquet de Flore, Armosa, Paxton, Madame Desprez. Teas—Homere, Melanie Willermoz, Safrano, Souvenir d'un Ami, Madame Damazain, Bougere, Goubault. All of these are tolerably hardy, that is for teas, but of course require some protection during winter. Vicomtesse de Cazes is free, and of an exceptional colour, but very tender. Socrate and Souvenir d'Élise are under trial.

The noisettes are no great favourites with me. Fellenberg and Vicomtesse d'Avesne are the freest. Ophiré the most peculiar. Triomphe de Rennes must have a good air; Aimee Vibert, Celine Forrestier, Lamarque, and Jaune Desprez are the best. The latter would be valuable were it not so very tender.

Most Chinas are, as a matter of

course, continuous in bloom; it was from them, no doubt, that the habit was originally derived. Fabvier and Cramoisiè Superieure are the best for beds; Mrs. Bosanquet and Marjolin as specimen flowers.

It is too early yet to pronounce upon the introductions of last year. I am noting the demeanour of some twenty of them. However, H. P. Henriette Dubus, though not a first-rate show flower, is a proper and frequent bloomer of good habit, worthy of trial for garden purposes; and Monte Christo and Madame Clemence Joigneaux come early, and, with *me*, promise to be first rate town varieties. I have the same anticipation also with respect to Charles Lefebvre, Madame C. Wood, Notre Dame de Fourvriers, and Vicomte Vigier.

The worst of writing upon any special matter is, that a certain amount of repetition is unavoidable. Phraseology is limited, and certain words will recur in elucidating the subject. However, one must risk the charge of tautology in pursuit of the object for which these papers are written, viz., to popularize the most *recherche* ornament of our borders and parterres, in places and among those who at present are compelled to be satisfied with subjects of far inferior grade, such as mere bedding plants or annuals; pretty enough in their places, but which ought not to form the *summum bonum* of the enthusiastic florist's tastes and aspirations.

W. D. PRIOR.

Homerton, N.E., June 10.

THE HOLLYHOCK.

By WILLIAM PAUL.

From the "Gardeners' Manual," 1863.

CAN we dispense with the hollyhock? The rose is a more general favourite, and in its varied states of standard, climber, and bush, a more available plant; the dahlia is still the "queen of autumn;" but for the odd nooks and corners in small gardens, and for planting in masses for distant effect in large gardens, there is no flower so suitable as the hollyhock. As to the height to which it grows, this cannot be fairly urged to its disadvantage; there are positions in almost every garden for which this feature renders it peculiarly adaptable. The best of our "bedding plants" are of lowly growth; we must look down upon them to appreciate their beauty. But we cannot always be looking down, be the prospect ever so charming. And there is a new feature of beauty in that garden where, on raising the bent head and downcast eye, we meet with spikes of hollyhocks breaking the flatness of the general surface by streaks or lines of rich and varied colours rising high among the leafy trees. In many beautiful gardens that we have visited, we have been more than disconcerted by the abrupt transition from "bedding plants" to trees, moderated as this has sometimes been by raised baskets and pillars of summer climbers. Beautiful as are these latter, they are not sufficiently massive. The holly-

hock, and, as far as we know, the hollyhock alone, effectively fills the vacancy. We know that it has been the fashion with some to decry this plant, calling it coarse, formal and weedy. Admitting that there is some truth in this, may we be permitted to ask, is it not also bold, striking, and effective, and are not these elements worth combining, at some sacrifice, with the rich, the bright, the beautiful?

Thus far of its value in garden scenery. But it has lately come to be considered as a florist's flower. The busy brain and hand of the cultivator have been engaged in its improvement; and those who remember the hollyhock of twenty years ago cannot fail to mark how complete has been the success. Not only has it become even more useful and effective for garden decoration, but it has received a degree of elegance and symmetry from the hands of the cultivator that has fitted it to take a position in company with the most distinguished of Flora's subjects.

The hollyhock flowers naturally in August, but by a little management the bloom may be prolonged, and continue from July to November. Old plants that have bloomed the year before will bloom the second year in July and August. Cuttings taken and rooted, or seed sown out of doors the previous summer, will bloom

in August and September. Seed sown in pans as soon as ripe, and wintered under glass, will bloom in October of the following year. By using these three sorts of plants, a succession of flowers may be kept up. If an early bloom only is required, old plants must be planted; if a late bloom, young plants and seedlings.

In planting for effect, we would always recommend planting three or more of the same sort close together in a group, choosing the clearest and most distinct colours, and those which produce the densest and broadest spikes. When growing for exhibition, the form of the flower is of course the primary point for consideration, and here it is usual to plant in lines three or four feet apart, that the culture of the plants may be more carefully and more conveniently attended to. There are some sorts which are alike suitable for exhibition and garden decoration, but both objects can scarcely be attained conjointly. But as to culture, the hollyhock is not particular in regard to soil, it will grow and flourish almost everywhere. The finest spikes we have yet seen were grown on a strong moist loam that had been deep trenched, richly manured, watered in dry weather, and well cultivated by frequent and deep hoeing.

Cuttings of hollyhock, single eyes, taken in July and August, and placed round pots in a cold frame, will root in a month, and may be placed in single pots and stored in a cold frame through the winter, repotting into larger pots in February, and planting out in April. Seed should be saved from the best formed, the smoothest, and most double varieties only, and to insure a fair crop of seed it is necessary to pull the flowers from their stalks, so soon as the former begin to decay.

There are two seasons at which the seed may be sown; first, in July, in the open ground, the seedlings to be transplanted or not, according to the convenience of the cultivator; and, secondly, in October, in pans, to be potted into single pots in November, and kept under glass till planted out in April. If the seedlings sown in the open ground are to be transplanted before flowering, October is the best time, and next to that April.

In planting out, whether from the ground or pots, a showery day should be chosen, and after planting the stems should be surrounded with a little stable manure. If the weather or soil be dry, water copi-

ously till the flowering declines. The hollyhock, with its large surface of leaves and great perspiratory powers, consumes a great quantity of water, especially at that period of its growth, in June and July, when the leaves so rapidly increase in size. So soon as the spikes rise from the crown of the plants, stakes should be driven in at least two feet deep, and allowed to remain the same height above the ground, which is sufficient to hold any spike, and will not interfere with the flowers. One, two, or three spikes may be left to each plant, remembering, however, that the fewer the spikes the larger will be both spikes and flowers. Sometimes the flowers are so thick on the spike as to interfere with the expansion of the guard petals. In such cases thin out the flower buds when about the size of a nut. Tie up with strong bast from time to time as the spikes rise. Top the spikes at any given height; in sheltered situations they may be allowed to rise to nine feet; but where much exposed to wind, seven feet should be the maximum. Shading is necessary, if growing for exhibition, especially with the delicate-coloured varieties, which quickly soil if exposed to sun, wind, and rain. Fortunately this soiling is not sufficiently great to interfere with the effect of the spike in the garden, and as shading is troublesome and unsightly, it may well be dispensed with except where growing for exhibition.

Some few years ago, the hollyhock suffered great depreciation from being attacked by a disease which baffled the skill of our best cultivators. Thousands of plants, both young, unbloomed seedlings and named sorts, suddenly decayed, often just as the first flowers were expanding, when it was impossible to refill their places. This, we believe, was attributable to the unwholesome plan, too generally adopted, of forcing the plant, causing it to grow out of season, and in a close unnatural atmosphere, in order to obtain a more rapid and extensive increase by root-grafting. If we have rightly studied the vegetable kingdom, there are few plants that will bear this strain put upon them without suffering a diminution of vital power, not always quickly recovered, but often conveyed downwards to the offspring, alike through cuttings and seeds. Certain it is, that by the discontinuance of this practice the disease gradually disappeared, as far as we know, and is now almost extinct.

THE GARDEN GUIDE FOR JULY.

WORK OF THE SEASON.—The long drought during April, May, and part of June, has had a bad effect on roses, which in many places look poor, and all bedding-plants that were put out early now look worse than those that were put out late. We shall probably have plenty of rain this month, indeed July is a wet month usually. But as it is also a hot month, a few remarks on watering may be useful. This matter of watering is one much less understood than it should be; but the more it is understood the lighter becomes the labour. As a rule water should never be given, until the further withholding of it would be detrimental to the plants. *Habitual* watering does, in the majority of cases, more harm than good. Plants left to battle with drought, send their roots down deep in search of moisture, and when rain does come, they benefit more by it than those that have regular waterings all along. If the ground is dug deeply, and kept in good heart, plants that have once got established will bear drought for almost any length of time; but things lately planted, and that have not had time to "get hold," must be kept supplied, or their beauty may vanish for half the season. Succulent vegetables, too, which ought to be kept growing quick, must have abundance; and, of course, plants in pots must, of necessity, have sufficient. There are two important points to be attended to in giving water—one is to expose the water to the sun before using it, to render it soft and warm; and the other is to give a thorough soaking at once, sufficient to keep the ground moist for a week. Supposing the supply to be limited, but regular, the best way of economizing both water and time, is to take the garden, piece by piece, watering each piece thoroughly every evening, and then beginning again as at first. Surface sprinklings bring the roots to the surface in search of the moisture, which, when they reach it, is insufficient to nourish them; but, on the contrary, causes exhaustion, by inducing the growth of fibres within reach of the burning rays of the sun. Plants in pots, in windows, and on gravel paths, are very much tried by the heating action of the sun, and to keep their roots cool, it is advisable to drop the pots into larger ones, and fill between the two with moss. This is the proper way to use ornamental pots, and the dressing of moss may be made to hide the inside pot, which con-

tains the plant by arranging it neatly over the surface of the soil.

KITCHEN GARDEN.—Where early crops are coming off, clear the ground and dig it over at once; it is a folly to wait for the last handful of peas or beans. As soon as the rows cease to be profitable, destroy them, and clear the ground. Dig deep, that the heavy rains now to be expected may sink deep, and plant out Brussels sprouts, green collards, kail, savoys, cabbages, broccolis, etc. If the plants are crowded in the seed-bed, it is best to get them out at once. Have all ready, and in the evening put out as many rows as possible, and give a little water to every plant. Next morning lay a few boughs or mats over them, to shade off the sun, and the next evening get out more, till the planting is finished. This is better than waiting for rain, which may be so heavy as to render the ground unfit to be trodden on, and, if succeeded immediately by heat, the plants will flag as much as if put out in dry weather, whereas, being already in the ground, the smallest shower benefits them. Seed-beds for winter-spinach should now be made up and well manured, and the seed got in without delay. In gathering French and runner-beans take all or none. If seed is desired leave a row untouched. Never take green pods and seeds from the same plants. Take up onions, shalots, and garlic, as they ripen, and store for winter. Give asparagus-beds plenty of liquid manure, and use the grass mowings from the lawn as mulchings, to prevent the soil from cracking. Earth up celery for early use, but the rows that are not forward must be kept open and well watered, as the plants grow very slowly after being earthed up, the object of the earthing being to blanch it only. Also plant out the main crop of celery as soon as the ground can be got ready. Cut down artichokes. Hoe between all growing crops, and especially between potatoes. Top runners, and keep them well staked, but very tall sticks are not at all necessary, as they are only the more liable to be blown over by gusts of wind. Sow the last succession of runners and French beans; also lettuce, endive, Statholder and Mitchell's cauliflower, radish, small salads, spinach, peas, and turnips. Land lying high and dry may be planted with potatoes now, for use early next spring.

FLOWER GARDEN.—Budding is the most important operation this month. After

heavy rains is the best time, and the operation should be performed at dawn or after sunset; but early morning is the best, as the sap then flows freely. The stocks should be vigorous, and if the weather continue dry, and if the sap flows slowly, a drenching of liquid manure or plain water, for two or three nights in succession, will prepare them, without waiting for rain. Cuttings of all kinds may now be struck out of doors; antirrhinums, piloxes, pentstemons, alyssums, dielytras, etc., and cuttings of laurels, aucubas, and other shrubs, must be struck in the shade; but geranium cuttings should be struck in the full sun, and the sooner they are got in the better plants will they make to stand the winter. Where long ripe branches of geraniums can be spared, they are better than soft shoots; and, if pinched for time, strike a lot of such ripe branches in five-inch pots, half-a-dozen in a pot, put all round, and they need not be potted separately till spring, when started for bedding out. Dahlias want special attention now as they come into bloom; earwigs are very destructive to them, and must be trapped with bean-stalks, or a handful of hay may be stuffed into an empty flower-pot and put on a stake, and the vermin shaken out into salt and water every morning. Another lot of chrysanthemums should be struck this month, under hand-glasses, to make dwarf plants for the window and greenhouse in autumn. The pompones are the best for this purpose and they may be stopped till the middle of August, to keep them dwarf and bushy. Train out dahlias neatly, but do not cut them severely, for the loss of foliage only weakens the plant. Put in cuttings of scarlet geraniums in the full sun, either in a sandy border, or in pots half filled with crocks, to be potted singly, as soon as rooted. Get strong plants of chrysanthemums into their places in the borders, so that the heavy rains this month may establish them. Layer pinks, carnations, and picotees, and put pipings of the same into a gentle bottom-heat. Another lot of annuals may be sown early in the month, to keep up the gaiety of the borders. Bud roses during cool moist weather.

GREENHOUSE.—Shift all greenhouse plants required for late blooming, and grow them on to a good size before allowing them to blossom. Cinerarias for winter blooming must have good culture and shifts as required, and camellias may be shifted if necessary, but, if well potted in the first instance, they will flourish in the same pots for three seasons in succession, and to overpot them is to do them injury,

from which they may never recover. Ericas generally require to be pruned and cleared of seed-pods and dead flowers. Put out all the ventricosas in the open air in a north aspect, and shelter with spare lights during heavy rain. All those with woolly leaves to be put in cold pits, and kept shaded at mid-day. Any not shifted in the spring cut in at once, and as soon as they break replot them. Repot *Leschenaultias*. Every kind of hard-wooded plants may be reotted now if out of bloom.

STOVE.—*Achimenes* and *clerodendrons* require weak liquid manure to keep them in full vigour and beauty; shade at mid-day, and keep up a moist heat. *Globe amaranths* must have a moist heat of 75°, and be near the glass. If not all potted, pot at once in 48 and 32 size, with *fuchsia* compost. *Ixoras* done blooming to be cut in close, and placed on a bark-bed to break afresh. See that the plants for winter blooming are doing well, and pay especial attention to *Euphorbia jacquiflora*, and *Poinsettia pulcherrima*. Give air at every favourable opportunity, plants newly potted, to have very moderate supplies of water at the root, but to be aided with a moist, warm atmosphere.

PINERY.—As pines colour, they should be kept moderately dry. Plants shy of fruiting should be kept dry for awhile, to cause a check, and then be liberally soaked, and kept warm and moist, and the new growth will result in the production of fruit. But to check them before they are well matured may cause premature fruiting, and should not be done until the plants have had a long course of liberal culture. Young stock must be encouraged to grow strong, by allowing plenty of room in which to expand their leaves; give plenty of water, and repot as necessary.

VINERY.—In vineries great attention must be paid to keeping the foliage healthy to the last, as on this depends the maturation of the buds that are to fruit next season. Keep up a moist atmosphere, and watch vigilantly against red spider. Vines heavily laden with fruit must have the assistance of strong manure water. Be careful not to cut away laterals too freely, as they are most useful in helping the maturation of the bunches; be careful to keep the bunches shaded with a few leaves, by tying the laterals over where necessary.

Bush Fruits.—Keep gooseberry and currant bushes open in the centre, and leave on the bush fruits only as much wood as will bear a fine crop next season. Cuttings of gooseberries and currants may be struck now in a moist, shady border, and

if sufficient canes were not got in last winter, the deficiency may now be made good, and a season be saved. Muleh raspberries with half-rotten dung.

Strawberries.—Runners of strawberries struck in pots, may now be cut off, and the plants shifted into a size larger, or turned out into beds. Beds made now have the best chance of becoming strong before winter, to bear abundantly next year. Strawberry-beds now want special attention. Strong-rooted runners should be taken off to form new plantations, and be pricked out into well-manured beds, pretty close together, to strengthen, preparatory to making new beds in September; or they may be laid in small pots, with a stone or peg to fix them, and will root directly. After three years strawberry-beds cease to pay, and should be broken up, and the ground trenched for winter crops.

Stone Fruits.—Tie in and train as needful, and use the syringe to wall trees if the weather should be dry, and especially with east winds. Continue to bud stone fruit-trees, for orchard and pot culture. Thin out weak spray on all bush-fruits, and fore-right shoots on wall-fruits. Maiden trees intended to be trained should be stopped, to make them break into side-shoots, as a whole season's growth is thus saved.

Azaleas to be prepared for ripening their wood by giving more air. Put out the earliest in a shady place.

Camellias, treat the same as azaleas, and shift any that require it. Their roots may be refreshed without giving larger pots by turning out the ball, removing some of the stuff from it, and making it up again with fresh compost. Pot firm.

Carnations are gross in some places, through having such an excess of rain. Protect the flowers from wet, get on with piping and layering without loss of time.

Cinerarias to be propagated from suckers, put in round the sides of pots in very sandy compost, and keep close for a week. Sow for seedling plants.

Conservatory to have plenty of air night and day, and abundance of water for all growing plants, overhead as well as at the roots. Neglect of watering now will hereafter show sad results, especially among soft-wooded and liliaceous plants.

Cucumbers, keep liberally watered, and train, and thin as necessary, to prevent crowding. They will take almost any quantity of liquid manure, if in a good state at the roots.

Dahlias must be humoured as to dis-budding and tying, because every variety has its own particular style of growth. Disbud freely all soft-eyed varieties, but

hard-eyed kinds allow to open all the blooms they make, till they come good.

Evergreens and shrubs of the free growing kinds may be propagated from this time to the end of August; cuttings put in in a shady place will root immediately. Prepare now to plant evergreens, which move well from the end of July to the end of September. In new ground this is the best season to plant them, but in established gardens the places intended for them are generally occupied with summer flowers.

Pelargoniums newly cut down to be kept pretty dry till they break, then to be potted in small pots. Pelargoniums done blooming must be turned out, but with the pots plunged in tan or ashes, and the plants sheltered. After a week's exposure cut them in to the first or second eye at the bottom of each shoot, and place them in a cold pit, to make their new growth. They must now, for some time, be kept from growing rapidly, and have but little water. When they have broken well, they must be re-potted into the smallest pots their roots can be got into, and all the old soil must be shaken off, and the roots moderately thinned.

Pinks to be propagated from pipings, layers, or cuttings. The last is the simplest, most certain, and therefore the best method.

Rhododendrons and other hardy Americans may be layered now. Beds of Americans much exposed to the sun will be benefited by being mulched with moss.

Hedges of all kinds, except holly, should now be clipped in. Hedges of large-leaved trees, such as laurel, Aucuba, etc., ought to be cut back with the knife, as the shears will spoil their appearance for the whole season.

Peas may be sown this month, for late supplies, and at this season it is as well to sow early as well as late sorts. Bedman's Imperial and Knight's Dwarf Marrow are good peas to sow the first week this month, for a supply very late in the season; but Emperor, Sangster's Number One, Daniel O'Rourke, and other of the earliest sorts, often prove useful, and are soon cleared off the ground. The best way to grow peas now is in trenches. Take out the trench a depth of two feet, lay at the bottom six inches of rich, half-rotten dung, then fill up to within nine inches of the surface, and tread over. Then sow, and cover with two inches of mould, and bank up the sides of the trench, so that the peas will grow in a sunk alley of about six or eight inches depth. At each end of the alley, close it in with a spadeful of earth, so as to make

a trough of it. As soon as the peas are up, sprinkle them plentifully with soot or wood-ashes; stick directly, and then every evening in dry weather, you can fill the alley with water, alternating twice a-week with manure-water, and the crop will come wonderfully fine. This plan is the one we always adopt after the beginning of June, and we have for years had healthy rows of peas, and abundance of produce, when, elsewhere, the heat has turned them yellow before their time, and the gathering has scarcely paid for the seed. The method is not so troublesome as it appears, for the filling the trench with water is but a few minutes' work, and being sunk and closed at the ends, there is not a drop wasted.

ORCHID HOUSE.—Orchids that have finished their growth should now have such attention as is required to get the pseudo bulbs well ripened. Many of the large specimens will be found to require a sponging all over, and this had best be done at the first opportunity, and in the present lull of work there is a fair chance of its being done effectually. More air should be given now among orchids, and to allow of a freer ventilation, put all the small and growing plants at one end of the house, where they can be kept close. Stanhopeas are about to commence their seasonal growth, which is a good time to repot them. As a rule, they do best in baskets, both because of their habit of growth and the downward direction of their flowers. They should have plenty of root-room, in shallow baskets filled with chopped moss, and after the shift to have very little water at the root till they grow freely, but liberal heat and atmospheric moisture. As soon as they begin to grow, water at the root freely, and keep them growing briskly till they have formed their pseudo bulbs, and then keep nearly dry till they show flower. A prolonged rest is most essential to their welfare. To get up good specimens, put them in large baskets, in which they may continue several years without shifting. There need be no fire-heat in either house this month, unless we have a long period of dull, cold weather, in which case keep up the temperature by artificial means; but, as a rule, a judicious

system of ventilating and shutting up will insure a proper temperature for Indians and Mexicans alike, and better than by the aid of fire-heat. Temperature of East India House, and for growing plants, 70° to 75° by night, 75° to 85° by day, with a rise to 90° with sun-heat. Mexican House, 65° to 70° by night, 70° to 85° by day.

Orchids that may be in bloom in July.

Aerides affine, odoratum, roseum, crispum, crispum v. Lindleyanum, crispum v. pallidum, crispum v. Warneri, Fieldingi, maculosum, maculosum v. Schroderi, McMorlandi, nobile, odoratum, v. cornutum, quinquivulnerum, quinquivulnerum v. album, suavissimum, Veitchii; *Acineta Barkerii*; *Angreum caudatum*; *Anguloa Clowesii*, *Clowesii macrantha*, uniflora, virginalis; *Arpophyllum carinale*; *Barkeria melanocaulon*, spectabilis; *Bolbophyllum Henshalli*; *Brassia Lanceana*, Lawrenceana, Wrayii, Broughtonia sanguinea; *Calanthe Dominii*, furcata, masuca, veratrifolia; *Cattleya Aelandiæ*, amabilis, candida, citrina, crispa, crispa v. superba, Harrisoniæ, Harrisoniæ violacea, labiata picta, Lemonia, Mossiæ, McMorlandii, Schilleriana, superba, violacea, Wagnerii; *Cœlogyne Lowii*; *Coryanthes macrantha*, *macrantha maculata*; *Cynoches barbatum*, *chlorochilum*, *Loddigesii*, *ventricosum*; *Cymbidium pendulum*; *Cypripedium barbatum grandiflorum*, *Lowii*; *Dendrobium alba sanguineum*, *calceolaria*, *cretaceum*, *sanguinolentum*; *Dendrochilum filiforme*, *glunaceum*, *Epidendrum alatum majus*, *cinnabarium*, *maculatum grandiflorum*, *Phœnicum verrucosum*, *vitellinum majus*; *Galeandra Bauerii*, *cristata*, *Huntleya melagraris*; *Lælia Brysiana*, *elegans* v. *Warneri*, *flava*, *purpurata*; *Miltonia spectabilis*; *Mormodes citrinum*, *luxatum*; *Odontoglossum citrosum*, *hastilabium*, *nævium*; *Oncidium divaricatum*, *longipes*, *luridum guttatum*, *pulchellum*, *pulvinatum*; *Peristeria elata*, *cerina*; *Phajus albus*; *Promenæa Rollisonii*, *stapelioides*; *Saccolabium Blumei*, *furcatum*, *guttatum*, *guttatum giganteum*; *Sobralia liliastrum*, *macrantha*, *macrantha splendens*; *Stanhopea aurea*, *Devoniensis*, *oculata*, *tigrina*, *tigrina lutescens*; *Vanda Batemanii*, *cristata*, *Roxburghii*, *teres*; *Warræa tricolor*.

USEFUL NOVELTIES.

SARMIENTA REPENS.—A dwarf trailing Chilean herb, suitable for growing in baskets. It has fleshy oblong convex leaves, about an inch long, and toothed towards the apex,

and numerous drooping tubular axillary flowers, of a light scarlet, reminding one of those of *Mitraria coccinea*.

SWAINSONIA VIOLACEA (Lindley), **Fabacæ.**—A handsome half-climbing

herbaceous plant, with something of the aspect of other Swainsonias, but larger. Stems slightly angular, smooth, furnished with imparipinnate leaves, consisting of about eight pairs of ovate-lanceolate rather obtuse leaflets, and having broadly ovate cuspidate ciliated veiny stipules. From the leaf axils come long spikes of large violet-mauve flowers an inch across, and composed of a spreading deep two-lobed standard, small connivent wings, and a long spirally convolute ascending pointed keel. Re-

ceived from the interior of Australia as a "new scarlet Clianthus." In the border of a cool greenhouse, of free vigorous growth.

TILIA EUROPEA POL. ARGENTEA, Tiliaceae.—A Silver Lime tree, with boldly-marked variegated foliage, the leaf having a small irregular dark green disk, and a broad creamy-white border.

TILIA PARVIFOLIA FOLIIS VARIEGATIS, Tiliaceae.—An elegant Lime, with leaves broadly margined with creamy-white.

JULY, 1863.—31 DAYS.

PHASES OF THE MOON.—Full, 1st, 6h. 46m. morn.; Last Quarter, 7th, 10h. 29m. after.; New, 15th, 10h. 54m. after.; First Quarter, 23rd, 9h. 32m. after. Full 30th, 1h. 23m. after.

D M	Sun				Moon				Weather near London, 1862.				Rain.	THE COUNTRY.					
	rises.		sets.		rises.		sets.		BAROMETER.		THERMOMETER.			The Garden and the Field.					
	h.	m.	h.	m.	Aft.	Morn.	Mx.	Min.	Mx.	Mu.	Me.								
1	3	49	8	18	8	22	4	0	29.89	...	29.87	72	...	54	...	63	0	.00	Pimpernal fl.
2	3	49	8	18	8	59	5	22	29.80	...	29.78	70	...	43	...	56	5	.01	Lime-tree fl.
3	3	50	8	18	9	29	6	45	29.88	...	29.79	60	...	39	...	49	5	.29	Red pimponel fl.
4	3	51	8	17	9	54	8	9	29.86	...	29.78	69	...	51	...	60	0	.00	Toad-flax fl.
5	3	51	8	17	10	18	9	31	29.65	...	29.54	74	...	52	...	63	0	.29	Oat fl.
6	3	52	8	16	10	40	10	49	29.72	...	29.38	72	...	53	...	62	5	.02	Reed mace or catstail fl.
7	3	53	8	16	11	2	After.		29.78	...	29.59	70	...	49	...	59	5	.31	St. John's wort fl.
8	3	54	8	15	11	26	1	18	30.03	...	29.94	76	...	49	...	62	5	.00	Bladderwort fl.
9	3	55	8	14	11	54	2	29	29.89	...	29.89	64	...	52	...	58	0	.20	Black horehound fl.
10	3	56	8	14	Morn.	3	34		29.74	...	29.72	77	...	39	...	58	0	.18	Wild carrot fl.
11	3	57	8	13	0	27	4	36	29.87	...	29.74	69	...	49	...	59	0	.38	Buckwheat fl.
12	3	58	8	12	1	6	5	31	29.45	...	29.39	72	...	75	...	58	5	.05	Traveller's joy fl.
13	3	59	8	11	1	52	6	18	29.81	...	29.77	75	...	51	...	63	0	.00	Everlasting pea fl.
14	4	0	8	10	2	45	6	59	29.82	...	29.74	75	...	45	...	60	0	.00	Wild basil fl.
15	4	2	8	9	3	42	7	32	29.77	...	29.67	70	...	48	...	59	0	.10	Tree primrose fl.
16	4	3	8	8	4	45	7	59	29.74	...	29.63	68	...	42	...	55	0	.01	White poppy fl.
17	4	4	8	7	5	50	8	22	29.86	...	29.80	70	...	50	...	60	0	.03	Clown's allheal fl.
18	4	5	8	6	6	56	8	44	29.95	...	29.87	75	...	45	...	60	0	.00	Cotton thistle fl.
19	4	6	8	5	8	1	9	3	29.98	...	29.94	72	...	45	...	58	5	.00	Spear thistle fl.
20	4	8	8	4	9	8	9	22	30.06	...	30.06	73	...	47	...	60	0	.00	Burdock fl.
21	4	9	8	3	10	15	9	41	30.17	...	30.19	72	...	36	...	54	0	.00	Gt. yellow loosestrife fl.
22	4	10	8	2	11	25	10	3	30.19	...	29.99	71	...	49	...	60	0	.23	Sussex century fl.
23	4	12	8	1	After.	10	28		29.90	...	29.89	67	...	42	...	54	5	.03	Fleabane fl.
24	4	13	7	59	1	50	10	59	29.99	...	29.89	74	...	54	...	64	0	.00	Virgin's bower fl.
25	4	15	7	58	3	3	11	40	30.04	...	30.98	81	...	41	...	61	0	.00	Pennyroyal fl.
26	4	16	7	57	4	15	Morn.		30.08	...	29.93	83	...	46	...	64	5	.00	Lady's mantle fl.
27	4	17	7	55	5	17	0	29	30.07	...	29.92	77	...	37	...	57	0	.00	Wild teasel fl.
28	4	19	7	54	6	10	1	33	30.10	...	29.98	78	...	41	...	59	5	.00	Dwarf elder fl.
29	4	20	7	52	6	52	2	50	30.05	...	29.99	79	...	50	...	64	5	.03	Wood sage fl.
30	4	22	7	51	7	27	4	13	30.06	...	30.02	78	...	41	...	59	5	.00	Fennel fl.
31	4	23	7	49	7	56	5	38	30.07	...	29.98	74	...	42	...	58	0	.00	Common nightshade fl.

July is notable for great heat and frequent storms. We are this year about ten days in arrear of averages with all the seasonal changes; in March the gales common to the commencement did not occur till the middle of the month, and in June we had the heavy rains which are generally characteristic of the month of May. We may, therefore, expect June weather till towards the 15th, and then much rain and occasional thunderstorms till the end of the month, with a close, sultry atmosphere.

THE FERNERY IN THE HIGHLANDS.

I WILLINGLY comply with your wish to be informed with regard to the names of the ferns growing in my fernery, in the open garden, in the Highlands. They are—*Adiantum capillus veneris*, *pedatum*; *Allosorus crispus*; *Asplenium adiantum nigrum*, *trichomanes*, *viride*, *ruta-muraria*; *Athyrium filix femina*, var. *multifidum*, var. *marinum*; *Cystopteris alpina*, *fragilis*, *montana*, *rhætica*, *angustata*; *Lastrea thelypteris*, *oreopteris*, *dilatata*, *cristata*, *decurrens*; *Osmunda regalis*; *Ophioglossum vulgatum*; *Onoclea sensibilis*; *Lomaria spicant*, *alpina*; *Polypodium vulgare*, *serratum*, *marginatum*, *cambricum*, *plegopteris*, *dryopteris*, *alpestre*; *Poly-*

stichum aculeatum, *lonchitis*, *angulare*; *Scolopendrium vulgare*; two other *scolopendriums*, names lost; *Hymenophyllum Tunbridgensis*, *unilaterale*; *Trichomanes radicans*.

There are several others in the collection, the names of which having become effaced, cannot be given. It is my intention to add to my fernery a number of exotic ferns, as an experiment, and have no doubt many will thrive well. The result shall be communicated.

SGOR-BHEAUM.

N.B.—By inadvertence, in my communication in May number, "*Cinerarias*" was written; it should have been "*Calceolarias*."

TO CORRESPONDENTS.

CATALOGUES RECEIVED. — "Grimmond, Laird, and Co., 15, Cannon Street West, London. Morton's Patent Silent Sun and Planet Lawn Mowers." A desirable acquisition. — "Pridham and Sanders, Sion Nursery, Thornton Heath, and College Grounds, North End, Croydon. Select List of Bedding and Border Plants." A good assortment of showy plants. — "Charles Turner. Royal Nurseries, Slough, and Salt Hill, near Eton and Windsor. Catalogue of Achimenes, Azaleas, Auriculas, Bedding Plants, etc." One of the best and fullest lists in the trade, and contains a charming lot of novelties. — "F. and A. Smith, Park Road, Dulwich. Retail Catalogue of New and Rare Plants." A substantial list with a fine lot of new plants. — "Henry May, The Hope Nurseries, near Bedale, Yorkshire. Spring Catalogue of Dahlias, Pelargoniums, Fuchsias, etc." A capital selection. — "Dillistone and Co., Sturmer, Essex. Catalogue of Choice Plants." A neat and well filled catalogue. — "Ambrose Verschaffelt, Horticulteur, Rue du Chaume, 50, A Gand, Belgique. Catalogue of Novelties for 1863." These are divided into three sections—plants suitable for cultivation in the stove, greenhouse, and open air. — "Deane and Company, 46, King William Street, E. C. Prospectus of Onin, Franc, and Co.'s Patent Sulphur Dredging Boxes, for the Dry Sulphuring of Vines, Fruit-trees, Espaliers, Hop and Potato Crops, Plants and Flowers." A very useful machine, which should be in the possession of every one who has a garden.

PLANTING A FOUNTAIN.—*W. P.*—Nothing better for the vicinity of a fountain than Pampas grass, *Elymus glauca*, *Tritomanuaria*, *hydrangeas*, *fuchsias*, *Lysimachia*

thyrsiflora, *Eriogonum Fraseri*, *Calla Ethiopica*, *Osmunda regalis*, *Athyrium filix femina*, *Arundo donax*, and other such plants of graceful habit and fond of moisture. You cannot have anything grand to flower in winter, but you may plant the banks with winter aconite, Christmas-rose, and primroses. In a sunny, dry position one or two *Lauristinas* would be useful for winter bloom. Hollies cannot be propagated by the superimposing process recommended for roses.

HEDGE FOR DIVISION.—*F. A. S., Ardmore.*

—*Cotoneaster* makes a nice hedge if trained to a trellis of stakes, or a lattice of hazel rods, three or four feet high. You could obtain from a nursery plants of sufficient size to make an effect at once, and they can be removed now or any time in autumn, or spring. If you begin with small plants it will take five years to make a good fence. It can be managed with very little trouble. Cuttings put in now in a shady place will be well rooted by next spring, but they grow slowly. If you are really anxious for this fence, and cannot use large plants, plant them when well-rooted eighteen inches apart in the line where they are to remain, and train to wires as they get up; this will do away with the necessity of a trellis, and may be added to as the growth requires. Strong bushes we should plant three feet apart. *Veronicas* would make a fine hedge, and for these wires would do as well as stakes; none so good as *V. Andersoni*, of which your purple flower is a specimen. This would certainly answer, but must not be clipped, but cut back moderately with the knife. The pea hurdles are fixed in their places by means of

wooden stakes, they simply rest on the ground. This reply was written immediately after your letter arrived, and unfortunately mislaid. We owe you a thousand apologies for the delay. It is our custom to be punctual, and we deeply regret any failing therein.

DISEASED VINES.—*W. B., Castle Lodge.*—

Your vines are suffering from defective root action, the cause of disease in nine-tenths of the cases of vine failure submitted to us. You do not say how they are planted, and therefore it is impossible to advise you minutely. They are either in a damp border, or a border excessively fat with undecomposed manure, or where they have not a sufficient amount of sun-heat.

PLANTING AFTER TULIPS.—*A. B. S.*—

Why grieve that you cannot plant your beds till the middle of June? All you need do is to get the plants shifted into 48-sized pots, and plunged out of doors after the middle of May till wanted. Then you can turn them out without any check, and in full bloom. So in autumn you need not take up your plants till the end of October, and you have then good time to plant the tulips. We should certainly prefer to plunge the plants in pots to using boxes: we once tried the box system, and was very soon sick of it, and, therefore, we cannot advise you to get into that trouble. Suppose you were to have some kind of cheap framework for inclosing those beds, and then fill them with potted plants for the summer, on the system described at page 127 of last number. That system proves to be about a hundred times more grand than any system of bedding, and it has but one defect, and that is, that it uses an enormous quantity of plants, but that is an advantage to us, for we grow a vast many more ornamental subjects than we can ever display properly. But you have only to give your bedders another fortnight's growing, and you and they will be the better for it in the end.

CATERPILLARS AND OTHER PESTS.—*W. D. P.*

—There will be no injury by the splashing of soap or chloride of lime solution on the soil. If any effect is produced it will be to the benefit of the plants, but we doubt if you will get rid of caterpillars by any method except hand-picking. The best remedy for red spider is pure water alone, or the fumes of sulphur. Red spider never attacks plants that are growing vigorously, and that have plenty of water; in fact, moisture is certain death to this pest. Soda will, if strong, spoil the foliage; if weak, not

harm the vermin; stick to plain water or tobacco-water, and you will do well. We find Louis XIV. a first-rate rose *war*, though it has hitherto been shy. But our plants are getting old, and show a free habit. The same with Eugene Appert, it is this season blooming superbly with us, though hitherto shy. We really cannot say if those you name will do with you. We should expect much of them. We find Cardinal Patrizzi grow and flower as freely as any rose we have.

CUCUMBER FAILURE.—*W. Hill.*—

The vines that bore so well, and then produced distorted fruit, and got full of fly, were probably exhausted through being in a poor soil, or wanting water. When cucumbers play these pranks it is usually best to destroy them. Touch up the bed and plant again, but you might have cured yours by using good linings to the bed, slightly pruning back the vines, and giving them frequent syringings with soft water and manure-water at the root. The leaves were scorched in fumigating by the tobacco taking fire. We cannot say what has caused the violet to sport, for there is much mystery about the cause of sporting, but we can advise you to keep it and increase it if you can. Fuchsias for pyramids should be topped at the height you wish the pyramid to be, and all side-branches should be pinched in frequently. Fumigating should be done at night when the house is dry, and the plants syringed well next morning. Ask fewer questions next time you write.

VARIOUS.—*Subscriber.*—

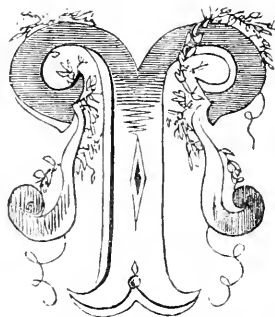
Inquire at the stationer's about India-rubber bands.—*R. S. Hopkins.*—We suppose your Narcissus are in a worn-out soil, and want dividing, the soil manured and the bulbs planted further apart than they are now. *J. A.*—We do not know how many kinds of hepaticas and double primulas there are. We have several shades of all the colours you name. The only way to get at them is to look out for them in bloom at nurseries, and there and then make sure of them by purchase.—*Commeline.*—The leaves of the lime are covered with fungi. These will all disappear, and you will probably never see it again. But should another outbreak occur, let us know, and we will consider what had best be done; at present we think you have no reason to be alarmed.—*Miss Price.*—The seed of the heartsease was all distributed immediately after the notice appeared. It cannot be obtained of the trade.

THE
FLORAL WORLD

AND
GARDEN GUIDE.

AUGUST, 1863.

ROSES IN 1863.



THE Rose suffered but little from the unfavourable weather which prevailed while the first blooms of the season were rising, and, in common with most other garden flowers, has made as good a display in 1863 as in any previous year in the memory of living cultivators. But we must always take note of events in order to learn practical lessons, and we may derive from the experiences of this season, which has been remarkable for drought and heat, precisely the same conclusion as we arrived at in 1860, when we had incessant cold rains and sunless skies, and many of

our favourite flowers scarcely bloomed at all.

In 1860 roses were remarkable for fulness, thickness of petal, richness of colour, and great size without coarseness. The foliage was then so green and ample, that the large-petalled and large-leaved kinds appeared to be competing with the camellia, and the magnificent bloom in the rosery greatly compensated for the lack of bloom everywhere else. In making our notes on the progress of the rose that year, we remarked that the abundance of moisture with which the heavens supplied them should afford a hint to cultivators that liberal supplies of water were essential to the production of a fine and continuous bloom. This season the summer opened early and dry; all through April and May we had much sun heat and little rain. During the whole of May, when the roses needed the help of moisture, both for their growth and to keep the vermin in check, there fell in London scarcely more than an inch of rain. The consequence was that the blooms began to colour some days earlier than usual, and where roses were left to fight it out with the elements they had a most unpromising appearance. A clump of the best of the perpetuals in our own garden had had not a drop of water either at the roots or overhead all the spring, and at the commencement of June they had such a melancholy look that we were compelled to have them smartly syringed and heavily watered, or run the risk of losing them altogether. They had scarcely a complete leaf from head to foot; they were literally alive and

filthy with fly, and three-fourths of the expanding buds were spoilt by the ravages of maggot. So much for roses in a hot dry season, when neglected by the cultivator. But the help afforded them was sufficient; they were effectually cleansed by means of pure water alone, and the rain that came shortly afterwards sustained them in the vigorous start they had made, and sufficed for an abundant and a beautiful bloom. From the 5th to the 24th of June there fell in London about three inches of rain, and in many parts of the country as much as five inches, and to that we were indebted for the glorious displays of roses made subsequently at the Crystal Palace, the Royal Horticultural Society's Gardens, Stamford, and Birmingham, for from the 24th of June to the 21st of July not a drop of rain fell in any part of the country, excepting only one or two storms of brief duration in Yorkshire and Norfolk. It was the general remark of rose growers at the beginning of June that the roses had not looked so poor for many years past. Many of them anticipated that the rose shows would be mockeries; yet it has turned out quite otherwise, and though the first blooms were worthless, a fine display followed, and the rose has again maintained her high position as the queen of flowers. The lesson of the season is, that roses love water, need water, and must have water, either from heaven or earth, or they become the prey of hosts of insect depredators, and have little beauty in either leaf or flower.

NEW ROSES.—The report of the Crystal Palace Rose Show (which appears in the usual place) will furnish our readers with lists of the best exhibition varieties in the several classes. In reviewing the season we naturally inquire what has it brought us in the way of novelties? Not much certainly, nor do we desire to have very many new roses under consideration at one time. But a few have been added to the lists, and the varieties of 1861 and 1862 have been submitted to a further test by being exhibited side by side with the best of those already established in public favour. Messrs. Paul and Sons, of Cheshunt, Mr. William Paul, of Waltham Cross, and Mr. Standish, of Ascot, have shared between them the principal honours derivable from new roses this season. In looking over our notes we find that about eight-tenths of the best new roses of the past five years are high-coloured flowers, and a considerable proportion owe their parentage, on one side at least, and generally the masculine, to *General Jacquemont*, which is now quite surpassed by *Lord Macaulay*, *President Lincoln*, *Alphonse Damaizin*, and a few others. We have thrown out from our select list a considerable number of recently-introduced roses, as being either worthless, or not in advance of varieties which have acquired fame for their general usefulness, or some special merits of form and colour. It may be as well perhaps to enumerate those which we consider as of little or no value among the new roses, and so we begin with

NEW ROSES REJECTED.—*Souvenir de Comte Carour* (Moreau). There are two roses of this name. The other is a fine rose, and is entered in another paragraph as worthy of honour. This is a poor imitation of that moderately good rose *Colonel de Rougemont*, colour lake, shading to lilac-rose, bad centre, petals loose, and the flower without character, or rather a decidedly bad character. *Alba Rosea*, a tea rose, colour creamy-white, with rosy centre, small, thin, and loose. As we have an abundance of fine teas of the same colour, we cannot accept this until we see it shown in a much better state than it has been hitherto. *Gloire de Chatillon*, brilliant red shaded with violet, large and full, and every way a good rose. But Mar-

gottin's *Souvenir de Comte Cavour*, presently to be described, is of the same make and colour, and, all points considered, the best of the two, and therefore we include this in the list of the rejected. *Robert Fortune*, a very pretty flower, lilac-rose, and sweet-scented, but loose, thin, and has a confused centre. *Madame Caillat*, satiny-rose, nicely cupped, medium size, not very full. *Turenne*, bright lilac rose, deformed and flimsy. *Souvenir de M. Roussau*, lake, shading to lilac, large, full, good, but inferior to many old varieties. *Madame Ernest Dreol*, lilac-rose, medium size, good, but no advance on better known varieties. *Emile Dulac*, crimson, thin, worthless. *John Cranston*, crimson moss, of no value. *Reines des Violettes*, fine dark colour, but too thin and loose now that we have such dark roses as *Vulcaïn* and others like it to choose from. *Celine Trouvais*, glossy rose, large and full, but no advance. *Peter Lawson*, scarcely so good as *Triomphe de Caen*.

NEW ROSES ACCEPTED.—We are now almost afraid that we have accepted too many, yet it is hard to condemn, or even treat coldly, varieties that produce really beautiful flowers, even when they are not greatly different, or at all superior to other kinds. But of this we are certain, that we have entered under this head none but first-class varieties, and among them are many of the most beautiful ever yet seen. We shall make two classes only, beginning with

LIGHT COLOURS.—*Milam? Clemence Joigneaux*, large rich rose, very fine, but not particularly distinct. *Jean Goujon*, clear red, double to the centre, and exquisitely formed. This is worth grouping with such roses as *Jules Margottin*, *Madame Knorr*, *Madame Vidot*, and *Prince Leon*, to make a clump of the five most perfect roses known. *Professor Koch*, rosy cerise, shaded with crimson, cupped, globular, very beautiful. *Duchess d'Alencon*, pure rose, immense shell-like petals, very large, exquisitely beautiful. *Madame Emain*, a fine Bourbon, like *Souvenir de la Malmaison*, but perhaps in no respect superior to that fine old rose. *Reynold's Hole*, pure rose, exquisitely formed, quite a gem. *Madame Standish*, clear pale pink, now well known as one of the best light roses. *Marguerite Appert*, colour of *Souvenir de la Malmaison*, flat, imbricated, likely to be a first-rate rose, and certainly as good as *Madame Emain*. *Madame Heyle*, lilac-rose, cupped, medium size, fine. *Lady Emily Peel*, blush, edged with purple, medium size, good form, a vigorous grower. *Louise Darins*, pure white, rather small, nicely formed, good, but we are afraid it is but a small advance on *Dr. Henon*. *Gloire de Bordeaux*, silvery white, under side of petals rose colour, large, full, substantial. This is a good tea rose, and is a seedling from *Gloire de Dijon*.

DARK COLOURS.—*Prairie de Terre Noire*, velvety purple, large, full, substantial, a valuable acquisition, named after Mr. Prairie, of Terrenoire. *Pourpre d'Orleans*, velvety purple, shading off to puce-crimson, cupped, full, medium size. *Madame C. Wood*, purplish-red, not very different to the last, but larger, petals large and thick, the reverse of the petals whitish, a fine rose. *Alphonse Damaizin*, in the way of *Eugene Appert*, lively scarlet-crimson, a very striking rose, and first-rate in character. *Souvenir de Comte Cavour* (*Margottin*), deep purplish-crimson, shading to nearly black, very full and large, and in many points like *Lord Clyde*, a good rose. *Maurice Bernardin*, deep lake (not vermilion, as described in the catalogues), large, full, imbricated, a lovely rose, and indispensable. *Beauty of Waltham*, rosy-crimson, a shade paler than we have been accustomed to see it, perhaps owing to its having been too much shaded

nicely cupped, good substance, a first-class rose. *Richard Smith*, deep crimson shaded with violet, the same colour as Margottin's *Souvenir de Comte Cavour*, but smaller, and otherwise not so good. *Mareschal Vailant*, glowing crimson-lake, small, full, very compact, and in every sense a lovely rose. *Triomphe de Caen*, centre scarlet-crimson, outside petals purplish-crimson, small, neat, cupped, good. *Le Rhone*, rich magenta-crimson (not vermilion, as described in the catalogues), exquisitely formed, a brilliant variety for exhibition, and free enough for clumps and beds. *Vulcain*, deep purple, shading to black, medium size, better than *Reine des Violettes*. *Olivier Delhomme*, purplish-red, like *Bourbon Souchet*, charming foliage. *President Lincoln*, a curious mixture of lake and lilac-crimson, good to the very core, imbricated, outer petals reflexing, in the way of *Lord Raglan*, and equally desirable. *Lord Clyde*, better than it has ever been shown before, though we always had to report well of it; let the rosarian imagine a General Jacqueminot made to order, and he will have an idea of the colour and quality of *Lord Clyde*. *Prince Camille de Rohan*, deep maroon-crimson, rich and velvety, superb. *Etienne Lecrosnier*, amaranth shaded with slate, in the way of *Triomphe de Caen*, very small, but superb in form and substance, and very distinct. *Monte Christo*, brilliant purplish-crimson dashed with scarlet, very large, good centre. *Charles Levebre*, purplish-red or magenta colour, a fine full flower of great substance. *Souvenir de Lady Eardley*, purplish-crimson, thick velvety petals, but very flat, and with an unmistakable yellow eye. *Duc de Rohan*, lilac-red, good. *Christian Putner*, rich pure crimson, full and substantial, fine. *Francois Lacharme*, carmine, globular, full, medium size. *Comtesse de Sequieur*, velvety red shaded with violet, large, globular, full. *Murillo*, most elegantly cupped, the outer petals reflexing, colour dull crimson, very soft, deep, and refined, first-rate in every sense. *Lord Macaulay*, velvety crimson, in every way an improvement on General Jacqueminot, which is as high praise as it needs to insure its popularity; it is worthy of its name. *La Brilliant*, crimson, loose, desirable only for garden use, as it is an abundant bloomer, and very showy. *Comte de Falloux*, crimson, small. *Grandiflora*, rich crimson, under side bright rose, large, full, flat, and reflexed, has the sweetness of a *Provins*, very fine. *Red Rover*, fiery red, thick petals, large, but not sufficiently double, it is, however, very vigorous, and makes a fine pillar rose. *Robusta*, rich lake, full and fine. *Mrs. Dombrain*, purplish-crimson, large, flat, and open-eyed. *Gregoire Bourdillon*, dark puce-crimson, flimsy. *J. F. Lombard*, rich deep crimson, velvety, cupped, small, neat and good. *Alexander Dumas*, blackish-crimson, velvety, large, and full, and perhaps the best dark, and the darkest of all hybrid perpetuals. *Eclatante*, deep glowing crimson, extra fine.

OLD ROSES REJECTED.—It would be well if rosarians could agree to reject an old rose whenever a new rose of similar make and colour, but superior in some respects, made its claim for acceptance. It might sometimes be hard to part with an old friend, but why should we keep any rose which is not *sui generis* in some quality or other, when we have such hosts to choose from? Let us endeavour to make a beginning by enumerating a few that are no longer wanted, and which, therefore, we recommend our readers neither to purchase nor propagate:—*August Mie*, uncertain, shy, quite surpassed. *Colonel de Rougemont*, too clumsy for the present day. *Geant des Batailles*, flowers too small, plant much given to mildew, valuable on its own roots for clumps, but quite beaten in colour,

habit, and continuance. *Bacchus*, too shy to be trusted. *La Valloise*, poor and pinking. *Le Royal Eclair*, shy. *Louis Châle*, shy. *Madame Labouche*, shy. *Madlle. Alice Leroy*, a capital rose for free bloom, and pretty, but poor in quality, and being of the pure rose-colour class, may be rejected, because in that class we have plenty of better flowers. *Madlle. Auguste*, very shy. *Madlle. Louis Corique*, tolerably good, but not worth perpetuating. *Maxime*, shy. *Virginal*, thin and shy. *General Jacquemont*, the hybrid China of this name is a free blooming purplish-red rose, of no value whatever. *William L. B.*, once popular as the "blue moss rose," is a rampant grower, and when cut, very beautiful, but has no beauty in the bush, and one or two specimens are sufficient for the largest collection. Of *Nisettes* strike out as worthless the following:—*Candide Anglaise*, *Comète*, *Caroline Marthe*, and *Triomphe la Duchesse*. This will, we hope, suffice for the present. We are afraid the black list will have to be largely increased. But as this is the time to propagate roses, we will add one more list of

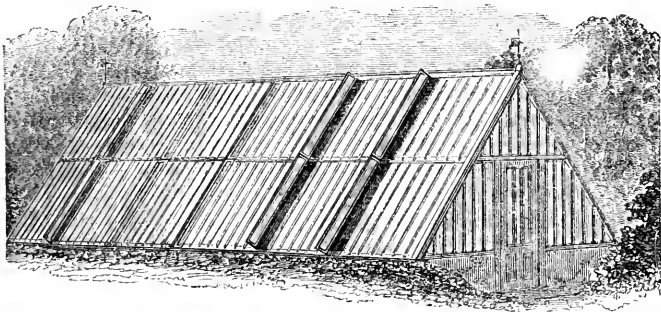
THE MOST PERFECT ROSES, NEW AND OLD.—*H. P. Light*: *Alexandrine Bellefroy*, peach; *Baronne Prevost*, pale rose; *Anna Alexieff*, pale rose—when disbudded and grown strong, exquisitely formed, when allowed to open all its buds, one of the most profuse bloomers known; *Belle de Bourg la Reine*, satiny rose; *Caroline de Sansal*, clear flesh; *Duchess de Magenta*, flesh, changing to white; *Duchess of Sutherland*, pale rose; *La Reine*, rosy pink; *Lælia*, shaded rose; *Louise Darzius*, white; *Louise Peyronny*, silvery rose; *Madame Hector Jacquin*, rose-shaded lilac; *Madame Knorr*, pale rose deepening towards the centre to clear lake, exquisitely cupped, one of the loveliest roses known; *Madame Rivers*, clear flesh; *Madame Villoz*, flesh, perfect in form; *Madlle. Bonnaire*, white or pale rose; *Queen Victoria Paulsen*, white, shaded with peach; *William Griffith*. *Bourbons, Light*: *Anillie*, blush; *Comtesse de Barbauldanne*, flesh; *Queen*, buff rose, exquisite form, and very free; *Souvenir de Malmaison*, flesh, better under glass than in open air, but anywhere one of the grandest roses; *Alphonse Karr*, rose, small, beautiful, free. *H. P., red and crimson*: *Alphonse Nobel*, brilliant red; *Alphonse Damazain*, bright red; *Beauty of Waltham*, rosy crimson; *Charles Lefevre*, bright crimson; *Comte de Nanteuil*, bright rose with darker edges; *Crimson Perpetual*; *Duc de Rohan*, red, shaded with vermillion; *Duke of Cambridge*, dark red; *Enfant de Mont Carmel*, crimson; *Eugene Appert*, velvety crimson, bad centre when grown poor, but superb when treated generously; *Francois Lacharme*, carmine; *General Jacquemont*, requires liberal culture and disbudding to obtain the best flowers, but, with all its faults, indispensable; *Lord Macaulay*, like the General, and better; *General Washington*, rosy red; *Jules Margottin*, cherry red, a perfect rose; *La Ville de St. Denis*, rosy carmine; *Madame C. Caprelet*, red, veined with lilac; *Madame de Cambaceres*, rosy carmine, has a bad centre unless grown strong; *Madame Domage*, bright rose colour, a grand rose, and when disbudded, one of the largest, when grown for show, the top bud of each shoot only should be left to expand; *Madame Furtado*, rosy crimson; *Madame Laffay*, rosy crimson; *Madlle. Betsy Haiman*, carmine shaded cerise, most elegantly cupped; *Ornement des Jardins*, crimson; *Prince Leon*, crimson; *Ravel*, crimson; *Senateur Vaisse*, bright red; *Triomphe de l'Exposition*, reddish crimson; *Vainqueur de Solferino*, dark red; *Victor Verdier*, rosy carmine; *William Jesse*, crimson, tinged with lilac; *Lord Palmerston*, cherry red, exquisite when well grown. *Bourbon*,

red and crimson: Aurore du Guide, crimson scarlet; Dupetit Thouars, crimson; Justine, rosy carmine; Prince Albert, scarlet crimson. *II. P., dark*: Abd-el-Kader, velvety purple; Alexandre Dumas, the darkest rose known, and of good form; Archevêque de Paris, velvety purple; Christian Putner, purple shaded crimson; Comte de Beaufort, scarlet, dashed with black; Duc de Cazes, deep velvety purple; Empereur de Maroc, velvety maroon, of good form, considering its colour; Francois Arago, velvety purple, small but exquisite; Lion des Combats, reddish violet; Louis XIV., rich purplish blood, requires generous culture; Madame Charles Wood, reddish purple; Madame Julie Daran, purplish vermilion; Madame Pauline Villot, crimson purple; Lord Raglan, purplish crimson, wonderful foliage; Mrs. Elliott, purplish red; Pourpre d'Orleans, velvety purple; Prince Camille de Rohan, crimson maroon; Souvenir de Montceau, crimson-shaded maroon; Souvenir de Comte Cavour (Margottin), crimson and black; Triomphe de Caen, velvety purple; Vulcain, purplish violet, shaded with black. *Bourbon, dark*: Comice de Seine et Marne, crimson and purple; Comte de Montijo, reddish purple; George Peabody, purple crimson; Julie de Fontenelle, crimson purple; Victor Emmanuel, purple and purplish maroon.

TEA ROSES IN TOWNS.

THE citizen readers of this work have been frequently advised to grow tea roses under glass. It fortunately happens to be a fact, that whatever plant is too delicately constituted to endure unhurt the smoke of towns, can be grown under glass to perfection. To use a comprehensive expression, Londoners may grow anything under glass, provided they do not roast, bake, or boil the plants, contingencies likely enough when glass is put up without some forethought of the use to be made of it, or where greenhouses already standing are suddenly appropriated to the culture of hardy plants. Yet it only needs proper management to grow the hardiest of plants in common greenhouses, as I have had proof this season, for my roasting lean-to has been filled with hardy and nearly hardy plants since the end of May, and there has not been a leaf scorched all through the tropical heat of June and July; safety was secured by shading, plentiful ventilation, and the abundant use of water, and the result is, that I have been enabled to get up a stock of various subjects that were required in haste, and that with such parching weather would positively have made less progress out of doors, during such drought and heat. I have several times put it on record in the *FLORAL WORLD* that at Stoke Newington tea roses are not generally happy. Gloire de Dijon, and Devoniensis. Safrano, Niphetos, and sometimes Sombreuil and Narcisse, do pretty well out of doors; but to have a collection exposed to all weathers is rather a vexation than a pleasure. People who take notes in my garden tell me the air must be remarkably pure and the soil one of the best in England. It is true the air is the purest I know of at the same distance from London, that is, three miles as the crow flies; and the soil is a fat yellow loam resting on clay, and in some parts the clay is near the surface. But much of the beauty of vegetation here is simply the result of good culture. If I intend a plant to grow, and there is a reasonable probability of its growing, it wants for nothing requisite to its success,

and there is perhaps no garden similarly situated and of similar dimensions in which there is a better selection of interesting and beautiful objects. But this is nothing more than should be, considering my responsibilities as an adviser and a doctrinaire, and there is a limit to my skill as to all other human efforts, for I cannot make much of tea roses without the help of glass. This time last year therefore I determined to make an end of the vexation of living in the midst of flowers and having so few of these most beautiful of all the rose family, and the question of course arose, what sort of house should be built for them. In any case I said the house must be a span, and because of the limited space at disposal, it must be in miniature. I am not a freeholder, and therefore there was the additional necessity to have it legally portable, so that at any time it could be carried away and deposited unhurt wherever my lot might be next cast. As we are being fast built in, and have the promise of a railway to skirt the lower end of the garden, all my proceedings are shaped with a view some day to removal. I saw plainly that Sir Joseph Paxton's patent was the thing for me to patronize, and by means of two letters to Mr. Hereman, to settle the size and price of the house, all preliminaries were settled, and before the postman who took the second letter ordering the house to be supplied could have fairly rested from his journey, there stood at the front gate a waggon, piled to the height of the first-floor windows with bran span lights, all glazed and painted, with the doors, ventilators, bolts, screws, everything down to tenpenny nails, so that with the aid of a couple of carpenters the house was put up, in less time and with about a fiftieth part of the labour required to print this number of the FLORAL WORLD.



PAXTONIAN ROSE-HOUSE AT STOKES NEWINGTON.

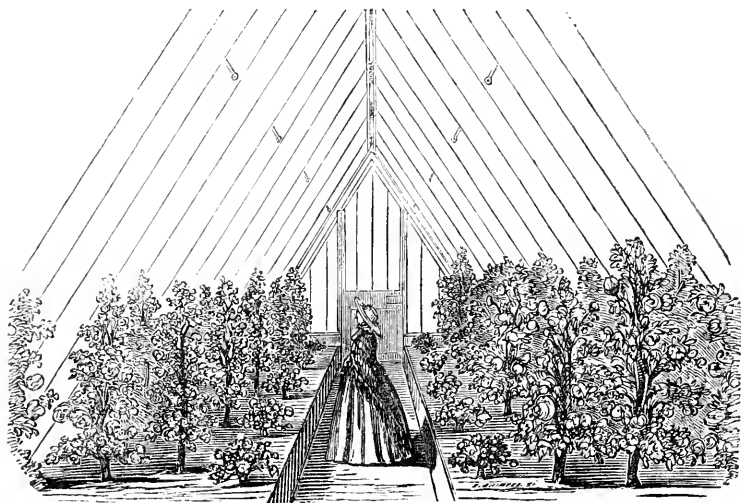
So much by way of history. The description may be similarly brief. The house is a span, with very sharp pitch, glass to the ground; the lights ride in the gutter, the gutter rides on wooden chairs, the chairs rest on concrete piers; it is as substantial as a rock, and as portable as a bedstead. The lights bolt together at the ridge, as if fitted together by hinges, so that they can be drawn out at any time to make a house one-third wider and of a low pitch; the ends are fixed under the styles of the roof sashes by means of small iron plates, the doors hang as other doors do, and the ridge is covered with a ridge-board, as in any other span-roofed house. The view of the structure will make all this plain, and serve also as a further instalment of pictures from my garden.

Now you may ask why this particular form of house in preference to any other. Let me therefore remark, that to grow roses under glass you need protection from frost and excessive wet in winter, this a glass house of any kind will supply. But you need all the help possible from sun-heat in spring, for sun-heat to roses is as much superior to fire-heat as fire-heat is superior to no heat at all when frost rages for weeks together. With such a steep pitch there is an immense gain of sun-heat in spring, and this house is generally four degrees warmer than one of lower pitch would be from an early hour in the morning, from the beginning of March to the middle of May. Therefore the roses are greatly assisted to bloom early and strong. But during the summer there is need rather of coolness than heat; certainly we do not want roses to be kept in an oven from June to August, and it happens that when the sun gets high in the heavens a steep pitch catches less of his rays, and a low roof is preferable to collect sun-heat. So by the use of this form of house we get aid from the sun when we most need it, and when an increase of the natural temperature is no longer desirable, there is the least possible difference between the temperature in the house and out of doors.

But the value of this style of building is not merely in the angle of the lights, for a house of any other kind could be built to the same angle, and these Paxtonian houses can be made as flat as any others, and are often so made for growing pines and other such things. But there are two special advantages, and the first of these is the perfect system of ventilation. The ventilating shutters are in two divisions, the whole length of the lights, and admit air either from the ground to the roof, or from the ground half way up, or from the ridge half way down, at the will of the cultivator. Thus there can be kept up a continual circulation of top air, which is desirable on sunny days in spring, or of air the whole length, which is desirable day and night all the summer in the case of roses, and the ventilators of this house have all been open day and night since the first week in June. I firmly believe that there is no system known equal to this for maintaining throughout the house a constantly moving atmosphere, the breeze playing through the leaves without violence, even when a gale is blowing, and still moving even when the air outside is at a dead calm. The heat of the sun striking on the glass and wood, causes all the air in the house to rise and escape at the edge of the ridge-board, this is the origin of the circulation when the air outside is still. The upward motion causes an inward flow of air at the bottom, and thus stagnation is impossible, and Phœbus himself works the wind-mill exactly at the rate needful, for the fiercer his heat the more rapid the escape of air at top and influx at bottom.

Our rose-growing readers will fully appreciate the importance of all this. A stifling atmosphere is death to roses, no matter if teas or what else. But they want no artificial heat to produce a good bloom, if the cultivator is content to wait till the sun brings them out naturally. Therefore this house is not heated in any way, and as an indication of what may be done without fire-heat, it will suffice to say that many of the roses in the house were in full bloom in the first week of April this year, and by the second week in May they were all out or covered with expanding buds, and so they continued till the end of June, when they were resting from their exertions, and preparing for a fine bloom all the late summer and autumn.

The view of the interior will show that the roses are all planted out in the two side borders, and the way they are planted may be worth telling to those who are fond of tea roses, and have no prospect of growing them well in the open ground. In the first place, then, the house measures 35 feet long, 16 feet wide, and is 12 feet high from the path to the ridge. It is therefore strictly a miniature rose-house. The borders are 80 inches wide, and are kept up by means of stout planks, neatly planed, and painted stone colour. The walk is sunk 15 inches below the top edges of the boards, and it consists of a mixture of fine gravel mixed with Portland cement, laid down on a bottom of hard stuff, and then watered and rolled while wet with a garden roller. It has the fresh colour of good gravel, and is as hard as a pavement. I should miss the mark altogether if I did not add that the borders are prepared with great care, for tea roses will not endure damp at the roots in winter, and they require a



INTERIOR OF ROSE-HOUSE.

light rich soil. First, then, along the centre of each border is laid a drain to carry superfluous water quite away. These drains communicate with the main drain which passes the house, and thus all stagnation of water in the soil is prevented. Over these drains is laid about six inches of broken brick and tile, and then eighteen inches of soil, consisting of thin slicings of turf from a loamy pasture previously laid up and the grass quite rotted, hotbed-dung, leaf-mould, the top pulverized crumbs from a bank of clay, and old plaster broken fine, equal parts all through. It is full of nourishment, firm and yet light, and the roses root into it as they do in forest loam in pots; that is, they make masses of fibre and no rambling fleshy roots. The cut will show that the roses are planted in three rows, the weak growers in the front, and the more robust kinds on the centre and back of the border. They are all on their own roots, which is the best way for free growth, good flowers, and never to be plagued with suckers. They were all planted in August, 1862, and were all

small plants in 60 and 54-sized pots. Now they are fine bushes, and several would have reached the top of the house this season if allowed to do so, or encouraged with the help of a few ties or wires. As to the bloom, it has generally been superb. Most of them bloomed well the last autumn, immediately after being planted out. Though I have remarked that the house is wholly devoted to teas, I must here say that is not strictly true. After the collection obtained for the house were planted, there was just room left for a pair of roses at one end. There happened to be a pair of *Souvenir de Malmaison* in full bloom in a part of the rosery which it was intended to alter, and as these would have to be moved some day or other, I put the fork under them on a bright day in August, and had them planted in the house in less than half an hour, kept them sprinkled and shaded, and all the signs they gave of having been moved was the shaking off of a few yellow leaves a week after. They were shaded and frequently sprinkled, and they bloomed till Christmas, and were the first to bloom again this spring, and they bloomed so abundantly that they had to be most carefully tied up to lessen the strain upon the branches of the enormous trusses produced. Since the hot weather set in, these two *Souvenirs* have been touched with mildew, and they have been potted and their places supplied with teas. These are the only roses that have not succeeded to perfection in the house, but as it was erected for teas only, I cannot charge them with wilful misbehaviour. As to the management, that consists principally of a daily syringing and a weekly watering at the roots. They have not tasted liquid manure yet, nor will they want it till next season. They are kept in order by the use of the knife and occasional pinching in, and the dead blooms are removed every day.

There are ninety tea roses planted out in the borders, namely, forty-five on each side, in three rows of fifteen each. In the *front lines*, being weak growers, are *Abriote*, *Archimede*, *Auguste Vacher*, *Bride of Abydos*, *Canary* (a lovely rose in bud), *Clara Silvain*, *Duc de Magenta*, *Elise Sauvage*, *Enfant de Lyon*, *Josephine Malton*, *La Boule d'Or* (a gem among tea roses), *Louise de Savoy*, *Devoniensis* (comes finer under glass than in the open air), *Madame Blachet*, *Madame Falcot*, *Madame Halphin*, *Madame Bravy*, *Madame Lartay*, *Madame Pauline Labonte*, *Madame William*, *Mirabile*, *Nina*, *Nisida*, *President*, *Reine de Pays Bas*, *Souvenir de David*, *Vicomtesse de Cazes*, *Semele*. *Centre and back rows*, *Adam*, *Amabilis*, *Belle Chartronnaise*, *Belle de Bordeaux*, *Bougere*, *Buret*, *Comte de Paris*, *Comtesse Ouaroff*, *Comtesse de Woronzoff*, *Delphine Gaudot*, *Eugene Desgaches*, *Gerard Desbois*, *Gloire de Bordeaux*, *Gloire de Dijon*, *Goubault*, *Homer*, *Madame Damaizin*, *Madame de St. Joseph*, *Madame Villermoz*, *Mareschal Bugeaud*, *Marie de Medicis*, *Marquise Foucault*, *Moiret*, *Narcisse*, *Niphotos*, *Ophelia*, *Regulus*, *Safrano*, *Socrates*, *Sombreuil*, *Souvenir d'Elise* (the grandest of all tea roses, sometimes as large as a breakfast-cup, and petals as thick as cardboard), *Souvenir d'un Ami*, *Triomphe de Guillot*, *Triomphe de Luxembourg*. Some are repeated.

In a larger house, I should take the vigorous growers up the rafters and allow them to form festoons. Several of the *Noisettes* would serve for the same purpose. *Ophirie* and *Jaune Desprez* would make magnificent climbers under glass. If it were only possible to build a lean-to, then I should prefer the Paxtonian principle, and put *Noisettes* and *Banksians* on the back wall. But I would make this a fixed rule—to

grow roses and roses only. There is nothing else that will properly mix with them when planted out, and the reader does not need to be told that when planted out they are much less trouble to manage than in pots, and they grow and bloom with considerably more vigour.

SHIRLEY HIBBERD.

PROPAGATING FOR NEXT SEASON.

It often occurs to me that amateur gardeners put themselves to much unnecessary trouble to propagate in spring, because anything and everything can be got up now without the help of artificial heat; and generally one autumn-struck plant is worth at least three of the best of those struck in spring. When we consider the hurry of spring work, the vast amount there is of it all at once, and the evils that result from delays, add to this the labour of making up dung-beds, keeping Waltonians and tanks at work, and the chance of east winds and frosts to keep the houses full and check the growth of "young stuff," how many reasons there are for propagating *now* whatever is best increased at this time of year. It will be understood that though mine is a very small establishment, there is a considerable activity in the propagating department all the year round. From the end of April to this present time, I have had an old Waltonian at work in my lean-to, and about every fourteen days it is cleared out, and refilled, so that in the course of the season, during which artificial heat may be dispensed with, say from May to September, five months, there are at least ten batches of rooted cuttings turned out. If all the cuttings are in four-inch pots, there will be thirty-two at each batch, or three hundred and twenty in all; and if there are only five cuttings in a pot, the total of plants will be sixteen hundred. This, of course, is nothing wonderful; but although I have every needful convenience for propagating by any method, I prefer the old Waltonian, for its convenience and cleanliness, and through its aid I am almost independent of the usual methods of propagating in spring. I am so satisfied that the

plan I follow is the best possible for the majority of our readers, that I shall risk being prolix, in order to speak of this matter in detail.

In the first place, then, the old Waltonian is the one from which the boiler was removed to furnish a sectional view of the interior (FLORAL WORLD, 1861, p. 248); therefore it is no longer capable of being heated, and is simply a box with glass front and glass top. Amateur propagators have therefore only to provide themselves with a wooden box of reasonable dimensions, say the same size as the Waltonian, which is thirty-four inches long and seventeen inches wide. Let this box be fifteen or eighteen inches deep. Fit it with some sort of frame to hold squares of glass for the top; never mind glass at the sides, it is of no use there. Burn or bore in the bottom of the box a few large holes to carry off water; and if with a little carpentry you can place the glass top or lights on the slope all the better. A smear of pitch inside and of paint outside will be further improvements; but to make a beginning in propagating the box is all that is wanted, and it must be covered with close-fitting glass of some kind on the top. My old Waltonian is just such a box and nothing more; it is covered with two large squares of glass in zinc frames; the old zinc tray is inside, but has no sand or cocoa-nut on it, as I find that useless, and so the pots stand on the zinc; and if the zinc were not ready to hand, as a legacy from the days of Waltonian experiments, the pots would stand on the wood, as in the supposition box we are considering in imitation of it. The secret of success is to place the box in a hot greenhouse, and in the full sun, and at one end, where the least amount of air

is given. Mine stands at the further end of the house, across the end of the path, so that it occupies no room so to speak, and cannot be in the way. I have spoken of cuttings in four-inch pots, but my usual practice is to put the cuttings separately in thumb pots, so that they want no more shifting till they have filled those pots with roots; and that is the plan I recommend all our readers to adopt in propagating at this time of year. By this method fifty to sixty plants are produced at each turn of the case, and there is no difficulty about getting up a stock of a thousand or more of any one particular subject, if needful.

In a case of this kind, heated by sun-heat only, fuchsias, heliotropes, verbenas, petunias, almost anything in fact, except geraniums, can be rooted to perfection in about ten days. The cuttings are preferred rather small; they are potted firm in a mixture of peat, silver-sand, or leaf-mould alone, or cocoa dust alone. When the case is filled, they are lightly sprinkled, and the glasses put on close. While the sun shines on the case the glass is covered with a piece of calico or tiffany, which is removed as soon as the danger of injury from sunshine is past. All the regular attention they have is to be *looked at daily*. If not looked at, some might perish, though if left shut up for a week there would be very few losses, unless the case was either very wet or very dry. It is very seldom my cuttings get anything more than one light sprinkle of water after being put in till the time to take them out again. You may always know when cuttings are well rooted by the bright colour of the little leaves at the tip, and the signs of growth visible. They may then come out, and be put in a damp shady place. Close beside my case in the lean-to, one light is shaded with two thicknesses of tiffany, and there is a space of the border covered with cocoa-nut dust on which the little pots are placed, and where generally the young plants remain till they have nearly filled their pots with roots. They are then hardened by placing them in a shady place out of doors, or on the floor of the house;

anywhere in fact, except where they might be roasted. After a week of hardening, they are ready for a shift, and by that time there is another batch coming out of the case.

Now, one use of such a case or box is that you are prepared at any moment to strike a cutting of anything. Let there be but one pot, or fifty in the box, it is all the same as to the certainty that, if done properly, roots will come in time. But now let us consider the doing of the same work on a larger scale. Have you any *small* frames? They are invaluable, and, for summer propagating, far preferable to anything large. I have some very neat substantial little frames, four feet by two feet, a foot deep in front, and eighteen inches deep at back, which can in an instant be carried anywhere; and they take one hundred cuttings each at a time, allowing as much room as cuttings of roses require, and they are the very best of all contrivances to strike rose cuttings in. You are of course aware that, at this time of year, a frame is a hothouse by day and a warm greenhouse by night. The best way to use these frames is to make up a raised bed of cocoa-nut dust or leaf-mould, or any light material in which cuttings will root quickly. Tread it firm, put on the frames to form the three sides of a square, and dibble the cuttings into the soil of the frames, water them in, and keep pretty close and shaded till they root. People who want to multiply their roses, fuchsias, petunias, hardy evergreen shrubs, fanciful herbaceous plants, ivies, chrysanthemums, etc., etc., have only to go to work as soon as they have read this, and, instead of buying plants by dozens, they may produce them free of cost by hundreds and thousands.

There is another way of using frames for propagating now. Get some glazed pans of from four inches to a foot in diameter, the larger the better. If pans are not to be had, use large pots, and take care to stop the holes with corks. Fill these pans or pots nearly full with a mixture of leaf-mould, peat broken to the size of hazel nuts, with all the dust, and

sharp sand equal parts. If you cannot get peat, use in place of it moss chopped very small, or dry sandy stuff shaken out of old pots. (By the by, the stuff out of old pots should always be kept in a bin. It is invaluable, when sweetened, for growing variegated plants and other things which must be kept rather poor, and it can always be improved by adding a little fresh loam or rotted turf.) Having put in the soil, water plentifully, so that the water fills up the pots or pans to the rim above the soil. Now put in the cuttings, and be careful that they all stand up nicely with their leaves above the water. Put them in a box or frame in the full sun, and shut close. They will want no more water, and they will strike roots in about ten days, and by that time they must have air gradually, and, as soon as they begin to grow with vigour, harden them for a week and then pot them off. If they are such things as verbenas, etc., which are to be kept in as small a space as possible all winter, pot them five or six together in five-inch pots, with one-third of the pots filled with drainage, and they will only want to be kept safe from frost all winter, and may either be potted and put on dung heat, or may be left till the end of April, and then be potted and put in the box to get a start by the aid of sun-heat only.

In remarking on the subjects that may be struck in boxes, I have made an exception in regard to geraniums. These are best struck in the full sun in an open border, and now is the time to get up a stock for next year. It is the delay in the propagating that makes a mockery of the bedding system in many places, where they have not been worth looking at till July. But save every old plant of geraniums; the older they are the more hardy and the more abundant the bloom. I fancy there are some folks who think themselves clever in gardening who would stare to see my plants of Tom Thumb and Imperial Crimson in 48-sized pots, with a score of trusses all open at once, and another score bristling up to meet them, and this for months together;

the secret can be told in a word: *they are old plants that have never been pruned.* Every year, about the end of April, they are shaken out of their pots, all the soil removed from the roots, which are slightly but not severely cut in, and repotted in the same pots in a firm compost, consisting principally of loam from rotted turf, a little dung rotted to powder, and some grit obtained by sifting the sweepings of the gravel walks. Make a selection now of a dozen or two, or half a dozen, of the best-shaped Tom Thumb, Attraction, Imperial Crimson, Lord Palmerston, Bijou, Queen of Queens, Dandy, Christine, Lady Middleton, and Cottage Maid, and treat them in this way, and you will have geraniums for your windows that will astonish everybody except those who happen to know how it is done. The knife ought never to touch them. If a shoot starts in such a way as to be likely to spoil the symmetry of the plants, nip it out with the thumb nail before it gets hard, and if any one takes the lead and threatens to grow briskly, prick out the eye with the point of a penknife or with a pin, and it will presently throw out side shoots and be as broad as it is long.

A last word on propagating may be useful. Take half ripe shoots of roses, cut them into lengths of about four joints each, with a joint at the base, and the leaf removed from that joint. Select the youngest shoots of verbenas, petunias, and fuchsias; those not showing bloom will be the best; of these, cuttings with three joints and a joint at the base are the best. Any sort of cuttings will do of geraniums, but nearly ripe short cuttings are best; and, if it is desired to multiply any kind as extensively as possible, one joint, with the leaf and bud attached, and a slice of the stem, will suffice, so that every separate bud will make a plant. When cut so small, it will be best to place them in pans in sand, and put them in a box or frame, and shade, keeping them only moderately moist. The same with roses: when struck from eyes, each separate eye must have the leaf with it, and the eyes must

be put in pans and be shut up. Old hands at propagating will probably prefer to use dung-heat, and save time thereby. Respecting this, the best of all ways in propagating, it is only needful to remark, for the information of beginners, that such things as roses should not be put in heat immediately they are removed

from the parent plants. Prepare the cuttings carefully, and dibble them into damp sand in a shady place, and there keep them fresh by occasional sprinkling. They will require about twelve days to form a "callus," and when that is formed, they should be potted separately, and be put on a sweet moist bottom-heat. S. H.

FLOWER SHOWS OF JUNE AND JULY.

ROYAL HORTICULTURAL SOCIETY, JUNE 17th.—This show contained several points of great interest. On this occasion Sir W. Dilke's prizes for dinner-table decorations were competed for, a large number entering the lists, the contributions being judged by ladies. Although so many subjects were exhibited, there were none to equal the original designs of Mr. March, and the winning designs were all modifications of his. Another point of great interest in this show was the Pelargoniums which were exhibited in such extraordinary fine condition by Mr. Nye, gardener to E. B. Foster, Esq., Clewer Manor, that they were the centre of attraction; the plant of that fine old variety Sanspareil, was a marvel of excellent culture, and the others were remarkably fine—they were Rose Celestial, Desdemona, Viola, Etna, Ariel, Fairest of the Fair, Lord Clyde, and Perdita.

Orchids were shown in great numbers, and were admirably done. Mr. W. Milford, gardener to E. McMorland, Esq., Haverstock Hill, was first with twenty, all of which were beautiful. He had a finely bloomed plant of *Odontoglossum phalænopsis*, a *Cattleya* species of a beautiful pale rose colour; besides good plants of *Brassavola Digbyana*, *Barkeria melanocaulon*, *Cypripedium grandiflorum*, *C. villosum*, *Cattleya lobata*, *Vanda Batemanii*, *Vanda tricolor superba*, and *Ærides odorata*. The other successful exhibitors were Mr. G. Baker, gardener to A. Bassett, Esq., Stamford Hill; Mr. C. Penny, gardener to W. H. Gibbs, Esq., Regent's Park; Mr. J. Green, gar-

dener to Sir E. Antrobus, Bart.; Mr. S. Woolley, nurseryman, Cheshunt; Mr. F. Lovell, gardener to H. E. Gurney, Esq.; and Mr. J. Wiggins, gardener to W. Beek, Esq.

Stove and Greenhouse Plants, and plants with fine foliage, were very numerous; the *Allamandas*, *Kalosanthes*, *Epacris*, *Pimeleas*, *Ixoras*, and few *Azaleas*, were in excellent bloom, and exhibited excellent training. Mr. T. Whitebread, gardener to H. Collyer, Esq., was first with fifteen charming plants: *Ixora javanica*, *Rondeletia speciosa*, *Pleroma elegans*, *Erica Cavendishiana*, *Epacris miniata splendens*, *Ixora coccinea*, *Polygala Dalmasiana*, *Dipladenia crassinoda*, *Vinca alba rosea*, *Pimelia mirabilis*, and *Adenandra fragrans*.

Roses in pots were principally shown by Messrs. Wm. Paul, Francis, and Terry. The finest plants were Paul Ricaut, Coupe d'Hebe, Juno, Mutabilis, Great Western, Paul Perras, Lælia, Anna Alexieff, Caroline de Sansal, Souvenir de la Reine d'Angleterre, Charles Lawson, Mad. Domage, Duke of Cambridge, La Reine, Mad. Willermoz, Mad. Hector Jacquin, Chenedole, and Vicomtesse de Cazes.

Messrs. Fraser, of Lea Bridge Road, had an unique stand of cut *Pæonies*, which were produced in superb style, and made a very charming display. Mr. C. Turner, of Slough, had a stand of excellent Pinks, three blooms each of Elcho, Titiens, Princess of Wales, and Cardinal. Messrs. Low and Co., of Upper Clapton, obtained a first prize for a splendid specimen of *Alocasia Lowii*; this charming plant was

nearly three feet over, exhibiting the most vigorous health, the veins of the leaves standing out with great distinctness, and shining with a lustre almost equal to *A. metallica*.

ROYAL BOTANIC SOCIETY, JUNE 24th.—This, the last show of the season, was magnificent, and besides the flowers there was a splendid show of fruit, the grapes especially being fine, a single dish of three bunches of Black Prince weighing no less than 9 lbs. 7 ozs. Mr. Nye, of Clewer Manor, again exhibited his beautiful Pelargoniums, which were just as fresh as when shown before. Mr. Turner had six elegant specimens of *Viola*, Modesty, Flora, Douglas, Bracelet, and Prince of Prussia. In the collections of twelve from nurserymen, Mr. Turner was first with five plants, and Messrs. Fraser were second. The fancy varieties were beautiful, Messrs. Turner and Fraser obtaining equal first prizes for Arabella Goddard, Cloth of Silver, Delicatum, Acme, Marionette, Bridesmaid, Lady Craven, Sarah Turner, Cheerfulness, Crystal Beauty, Musjid, Negro, Rosabella, Electra, and Mad. Rougiere.

Orchids were not so largely shown as at the previous show, but were generally fine and well-bloomed. Mr. G. Baker was first for twenty; among his was a lovely little plant of *Dendrochilum filiforme*, with ten long, gracefully-drooping spikes of its minute, delicate greenish-yellow flowers. Mr. Penny showed in his lot specimens of two new orchids, *Dendrobium Parishii* and *Odontoglossum uro-Skinneri*, excellently well-bloomed.

Stove and Greenhouse Plants.—Mr. Whitebread again came off first with sixteen immense specimens, but they were generally past their best, as stale blooms could be seen upon some of them.

Cape Heath.—Messrs. T. Jackson and Son, of Kingston, were first with ten nice plants, which were *Bergiana*, *Nobilis*, *Vent. superba*, *Tri. dumoso*, *Candollea*, *Depressa*, *Perspicua rosea*, *Ferruginea major*, *Tri. impressa*, and *Vent. Bothwelliana*. Mr. B. Peed was first with eight plants, and Mr. H. Chilman with six.

Fuchsias were in much finer condition than at the previous show, but there were not very many of them, and they were all put up in lots of six. Mr. E. Gardiner, gardener to J. Stutter, Esq., Oak Lodge, Clapham Park, was first with nicely trained plants of Princess Imperial, Rose of Castile, Isa Craig, Mad. Cornelissen, Senator, and Fair Oriana.

Roses.—A collection of eighty small pot roses on Manetti stocks was exhibited by Mr. Francis, of Hertford, for which a silver medal was awarded. They were a charming lot, remarkably dwarf and bushy, and covered with fine blooms.

Ferns.—Fine healthy collections of British ferns were shown. Forty-six from Messrs. Ivery and Son, Dorking and Reigate; forty-three from Mr. Lavey, gardener to E. A. De Grave, Esq.; and thirty-six from Miss Clarkson, 40, Avenue Road, St. John's Wood.

ROYAL HORTICULTURAL SOCIETY, JULY 1st.—The last great show was a very interesting one, as with it was incorporated the Great National Rose Show; but no prizes were offered for Pelargoniums, stove and greenhouse plants, orchids, ericas, etc., and consequently the greatest number of plants were destitute of flowers. The display of cut roses was large, a collection of forty-eight varieties from Mr. Hedge being grown to the utmost point of perfection, and appearing bewitchingly lovely. The show of fruit was very good; the pines were enormously large and heavy, and the melons, grapes, peaches, nectarines, strawberries, figs, cherries, etc., were in extraordinary perfection.

Roses.—Ninety-six cut blooms, distinct varieties: 1st, Mr. B. R. Cant, nurseryman, Colchester, with a fine lot, the most perfect being Madlle. Bonnaire, Souvenir d'un Ami, Senateur Vaisse, Mrs. Rivers, Comtesse de Chabillant, Madlle. Eugenie Verdier, Mad. Bravy, Chas. Lefebvre, Souvenir d'Elise, and Duchess of Norfolk; 2nd, Messrs. Paul and Son; 3rd, Mr. J. Mitchell, Maresfield, Sussex. For forty-eight varieties: 1st, J. T. Hedge, Esq., amateur, Reed Hall, Colchester. Twenty-four varieties: 1st, S. Dobree,

Esq., the Priory, Wellington, Somerset. Eighteen varieties: 1st, J. T. Hedge, Esq. Twelve tea-scented: 1st, J. T. Hedge, Esq., with Mad. Bravy, President, *Enfant de Lyons*, *Souvenir d'un Ami*, Mad. Sertot, Mad. Levainville, Moiret, Mad. Williams, *La Boule d'Or*, *Reine Victoria*, *L'Enfant Trouvé*, and *Bougere*.

Fuchsias were shown in lots of six, but there were not many of them, and they were chiefly the same as were shown at the Royal Botanic Society the previous week.

Orchard House Fruit Trees were extensively shown, and were, most of them, in great perfection. 1st, for six, Mr. D. Cattermole, gardener to J. Vickers, Esq., Tooting Common, with *Downton Nectarine*, *Belle magnifique cherry*, *Hoxton Mignonne peach*, *Jefferson plum*, *White Ischia fig*, and *Greengage plum*, all of which were loaded with fruit. Messrs. H. Lane and Son, Great Berkhamstead, had a splendid collection of miscellaneous fruits in pots, for which they were awarded a first prize; among them were splendid examples of apples—*Manx's Codlin* and *Hawthornden*; cherries—*May Duke*, *Bigarreau*, *Downton*, *Elton*, and *Kentish*; pears—*Citron des Carnes*, *Beurré de Capiaumont*, *Beurré Diel*, and *Duchess d'Orleans*; plums—*Kirke's* and *Early Favourite*; orange—*Otaheita*; figs—*Brown Turkey* and *Singleton*; and twelve pots of excellent strawberries, *Oscar* and *Goliath*.

A good number of window boxes, tastefully filled with plants, were shown, the first prize being awarded to Mr. Geo. Macintosh, of Hammer-smith, for a series of ornamental boxes filled with stocks, geraniums, *calceolarias*, *mignonette*, *verbenas*, *heliotrope*, etc., in the most glorious confusion. Mr. Chas. Turner showed two new pinks—*Rev. Geo. Jeanes*, a monstrous flower, three inches over, petals full, lacing broad and even, and of a dark crimson colour; *Lord Herbert*, large sized flower, with broad even lacing of a reddish lilac colour.

Cut Verbenas were shown in first-rate style, Mr. C. Turner being first with a stand of 24, all great beauties. They were, *Nemesis*, *Prima Donna*,

Lord Leigh, *Magnificans*, *Ariosto Improved*, *Annihilator*, *Madame Herman Steiger*, *Ruby King*, *Chacomb Gem*, *Garibaldi*, *Miss Labouchere*, *Le Grand Boule de Neige*, *Il Trovatore*, *King of Verbenas*, *Black Prince*, *Pauline*, *Grand Eastern*, *Géant des Batailles*, *Warrior*, *Lord Craven*, *Argus*, and *Mrs. Newton*.

Mr. W. Bull, of Chelsea, obtained commendation for a fine *Ouviranda fenestralis*, the lace-leaf plant, in flower. It is curious and interesting; the stalk is thrown up above the foliage, and just above the surface of the water divides into two horn-like terminations, covered with minute blooms; these are quite green at the base, and white at the points.

STAMFORD HORTICULTURAL SHOW.—This was held on July 8th, and was the best yet seen in this town. The show was laid out in five tents, the largest of which was 160 feet long; the chief attraction was the roses, which were shown in very fine condition, equal, if not superior, to those exhibited at the Crystal Palace or South Kensington. These were principally contributed by Messrs. Paul and Son, W. Paul, B. R. Cant, William Draycott, Rev. S. R. Hole, and Ebenezer Hunt, Esq. Stove and greenhouse plants were shown in good condition, and so also were *pelargoniums*, *fuchsias*, *caladiums*, *begonias*, *achimenes*, *gloxinias*, *verbenas*, ferns, etc.

CRYSTAL PALACE ROSE SHOW, JUNE 27.—This is at all times a very important exhibition, and the show this year was in no way behind its predecessors. The flowers were certainly not in so great perfection as we have seen them frequently before, and this may be accounted for by the sad havoc which was made among the roses by the thunder-storm which occurred on the day before; but still there were a great number which were shown in perfection, and the effect of the storm was not much to be regretted, for it brought out those which are able to stand against rough weather with comparative impunity. If this could be taken as a test of merit, then certainly *Madame Rivers* would stand high in general estimation, for

on every stand where it was shown it was of good form and size, and generally exquisitely perfect. The number of blooms shown was large, and many fine stands of new roses graced the transept tables, the merits of which the reader will find discussed in another page. The winner of the first prize in the class for 96 varieties was Mr. Mitchell, of Piltdown Nurseries, near Uckfield, Sussex, who has been a spirited exhibitor for many years. His flowers were marvellously fresh, and were grouped with considerable skill; 2nd, Mr. Charles Turner, of Slough; 3rd, Messrs. Paul and Son, Cheshunt; 4th, Mr. Cant, of Colechester; 5th, Mr. Cranston, of King's Acre, Hereford. In class 2, for 48 varieties, three trusses of each, Mr. Cant, of Colechester, was first with a superb lot. The varieties were, Mathurin Regnier, Grégoire Bourdillon, Jules Margottin, Madame Willermoz, Souvenir d'un Ami, Olivier Delhomme, Eugene Appert, Comte de Paris, Baronne Prevost, Comte de Falloux, General Jacqueminot, Comtesse de Chabillant, Pauline Lanzezeur, Adam, Victor Verdier, Madame Bravy, Francois Lacharme, Madame Vidot, Lord Raglan, Wm. Griffith, Charles Lawson, Souvenir de M. Rousseau, Senateur Vaisse, Mrs. Rivers, Anna de Diesbach, Duchess of Norfolk, Monte Christo, Bougère, Rubens, Duke of Cambridge, Lælia, Madame Boll, Victor Trouillard, Madame Knorr, Francois I., Madame Domage, Paul Ricaut, Modele de Perfection, Devoniensis, Empereur Napoleon, Triomphe de Lyon, Souvenir de Comte Cavour, and C. Lefebvre. Mr. Charles Turner, of Slough, was second, with General Jacqueminot, Comtesse de Chabillant, Gloire de Dijon, La Ville de St. Denis, Madame Charles Wood, Baronne Prevost, Géant des Batailles, Madame Vidot, Eugene Appert, Souvenir de Comte Cavour, Madame Bravy, Jules Margottin, Madame Guinoisseau, Devoniensis, Alphonse Damaizin, Triomphe de Rennes, Anna Alexieff, Catherine Guillot, Francois Arago, Victor Verdier, Louis XIV., Vicomte Vigier, Coupe d'Hebe, Madame de Cambaceres, Souvenir d'un

Ami, La Brillante, Duchess D'Orleans, Madame Knorr, Jean Bart, Evêque de Nîmes, Madame C. Caprelet, Celine Forestier, Modele de Perfection, Paul Ricaut, Lord Raglan, Mathurin Regnier, Narcisse, La Reine, Senateur Vaisse, William Griffith, Buffon, La Fontaine. Messrs. Paul and Son, 3rd; Mr. Hollamby, 5th. No 4th prize awarded. In class 3, for 24 blooms, three trusses of each, Mr. Francis, of Hertford, was 1st. Mr. W. H. Treven, of Rugby, was 1st with 24 varieties, one truss of each, and Mr. C. Turner was 1st in collections of 12.

Amateur Collections of Cut Blooms.—As the amateurs are more circumscribed in the means for growing roses than most of the nurserymen, it is in this department that the queen of flowers is put to the severest test, so that a good amateur stand is a fair index of the best varieties in cultivation. Mr. Hedge, of Colechester, occupied, as usual, the most distinguished place, as he took 1st prize for 36 varieties, 1st for 24, 1st for 18, and 3rd for 12; Mr. Ingle, gardener to C. G. Round, Esq., of Colechester, was 2nd for 18, and the Rev. V. Knox Child, of Dunmow, came in 1st for 12. In these collections the following varieties were the best:—*Hybrid Perpetuals*: Comtesse de Chabillant, Madame Vidot, Madame de Cambaceres, Leo X., Comtesse de Kergolay, Madame Boll, Madame Masson, Senateur Vaisse, Mrs. Rivers, John Hopper, La Reine, L'Enfant Trouvé, Lord Raglan, Jules Margottin, La Fontaine, William Griffith, Pauline Lanzezeur, Colonel de Rougemont, Anna Alexieff, Princee Leon, Imperatrice Eugenie, Eugene Appert, Madame Furtado, Baronne Prevost, General Jacqueminot, Madame Knorr, Madame C. Caprelet, Victor Verdier, Triomphe de Lyon, Louis XIV., Madame Guinoisseau, Turenne. *Gallicas*:—Letitia, Cynthia, Boula de Nanteuil, Napoleon. *Hybrid Bourbon*:—Coupe d'Hebe, Paul Ricaut, Charles Lawson, Souvenir de la Malmaison. *Teas*:—Triomphe de Lyon, Gloire de Dijon, Adam, Souvenir d'un Ami, Elise Sauvage, Madame Bravy.

Roses in Pots.—The grandest specimens in the show were those of Mr. W. Paul, who took 1st prize for 12 roses in large pots. They were much admired, as the flowers were very fresh and fragrant, the most remarkable being *La Reine*, *Madame St. Joseph*, *Gloire de Dijon*, *Coupe d'Hebe*, and *Lælia*, which last had enormous blooms of good form. Mr.

W. Paul was also 1st in the class for 25 roses in eight-inch pots. Messrs. Paul and Son took an equal 1st, and Mr. Turner 2nd. Prizes were offered for the best arrangement of thirty trusses for table decoration, and several competed for them, the winners being, Mr. Turner, Mr. Hedge, and Mr. Cranwell.

AUGUST, 1863.—31 DAYS.

PHASES OF THE MOON.—Last Quarter, 6th, 10h. 5m. morn.; New, 14th, 2h. 3m. after.; First Quarter, 22nd, 6h. 20m. morn.; Full 28th, 8h. 55m. after.

D M	Sun rises.		Sun sets.		Moon rises.		Moon sets.		Weather near London, 1862.			Rain.	THE COUNTRY.		
	h.	m.	h.	m.	Aft.	Morn.	BAROMETER.		THERMOMETER				The Garden	and the Field	
							Mx.	Min.	Mx.	Mn.	Me.				
1	4	25	7	48	8	19	7	4	30.00	29.97	82	45	63.5	.00	Flea bane fl.
2	4	26	7	46	8	44	8	26	29.95	29.92	79	41	60.0	.08	Mugwort fl.
3	4	28	7	44	9	7	9	44	30.05	29.99	81	40	60.5	.00	Sowthistle fl.
4	4	29	7	43	9	31	11	0	30.00	29.90	75	54	64.5	.00	Wormwood fl.
5	4	31	7	41	9	58	After.		29.66	29.60	74	47	60.5	.00	Yellow succory fl.
6	4	32	7	39	10	29	1	24	29.75	29.67	71	50	60.5	.06	Honeysuckle berries ripe.
7	4	34	7	37	11	7	2	28	29.45	29.34	66	48	57.0	.18	Saintfoin fl.
8	4	35	7	36	11	50	3	26	29.53	29.47	68	50	59.0	.12	Purple melic grass fl.
9	4	37	7	34	Morn.	4	16		29.81	29.68	69	42	55.5	.00	Wild basil fl.
10	4	38	7	32	0	41	4	59	29.98	29.65	67	51	59.0	.00	Calamint fl.
11	4	40	7	30	1	36	5	33	39.08	30.05	70	40	55.0	.00	Artichoke fl.
12	4	42	7	28	2	38	6	4	30.12	30.02	74	45	59.5	.00	Michaelmas daisy fl.
13	4	43	7	26	3	42	6	27	29.95	29.79	72	53	62.5	.34	Fiddle dock fl.
14	4	45	7	24	4	46	6	49	29.76	29.74	71	46	58.5	.12	Meadow saffron fl.
15	4	46	7	22	5	52	7	9	29.77	29.74	72	46	59.0	.37	Sea-holly fl.
16	4	48	7	20	6	59	7	28	29.78	29.75	68	52	60.0	.80	Devil's-bit scabae fl.
17	4	49	7	18	8	6	7	48	29.76	29.74	63	52	57.5	.31	Thistle-down floats.
18	4	51	7	16	9	16	8	10	29.89	29.87	74	41	57.5	.00	Milk thistle fl.
19	4	53	7	14	10	25	8	34	29.94	29.92	77	44	60.5	.00	Braets of lime-tree fall.
20	4	54	7	12	After.	9	2		30.03	29.89	74	52	63.0	.00	Hawkweeds fl.
21	4	56	7	10	0	49	9	38	29.90	29.82	78	53	65.5	.01	Lady's-tresses fl.
22	4	57	7	8	1	58	10	23	29.93	29.83	74	37	55.5	.00	Southernwood fl.
23	4	59	7	6	3	4	11	18	30.01	29.87	73	36	54.5	.00	Wild amaranth fl.
24	5	1	7	4	0	Morn.			30.22	30.05	75	38	56.5	.00	Soapwort fl.
25	5	2	7	2	4	44	0	28	30.24	29.97	76	45	60.5	.00	Hoary mullein fl.
26	5	4	7	0	5	22	1	45	29.90	29.85	77	44	60.5	.00	Small fumitory.
27	5	5	7	58	5	53	3	6	29.96	29.82	78	41	59.5	.00	Beech turns yellow.
28	5	7	7	55	6	19	4	31	30.12	29.98	79	41	60.0	.00	Althæa frutex fl.
29	5	9	7	53	6	44	5	55	30.09	29.90	70	38	54.0	.00	Dwarf furze fl.
30	5	10	7	51	7	8	7	17	30.07	30.02	74	50	62.0	.00	Red bryony berries ripe.
31	5	12	7	49	7	32	8	37	30.03	29.98	73	59	66.0	.00	Autumn gentian fl.

PROBABLE WEATHER IN AUGUST.—Generally dry and hot throughout; from 10th to 15th some storms. In the early part of the month wind westerly; middle of the month, changeable; end of the month, westerly.

THE GARDEN GUIDE FOR AUGUST.

KITCHEN GARDEN.—Winter greens claim the first attention, and it is necessary to insure at once a good supply, and a variety. By this time, Scotch kale, Brassell's sprouts, broccolis, savoys, etc., ought to be strong, and where they have been planted between rows of peas, to stand the winter, should now be looked over, and every other plant taken out, to make fresh rows, if they are at all crowded. Cabbages of most kinds may be sown in the second week of August, Shilling's Queen, Sprotborough, West Hum, and red Dutch, ought to have a place in every garden. Sow also prickly spinach on slopes in rich soil, and plenty of hardy green Hammersmith, and black-seeded cos lettuce. Sow cauliflower from the 7th to the 20th to keep over winter in frames. The summer-sown endive will now be strong enough to plant out on slopes, or raised beds. Give plenty of water, alternating with liquid manure, to celery, and do not earth it up until it is well grown, the earthing being only to blanch it for use. Give plenty of water to broccoli and cauliflower beds, and top scarlet-runners. In good open situations, vegetable marrows, for a late supply, may still be planted. Use grass mowings to mulch the ground between crops that are likely to suffer from drought. Hoe between the rows of potatoes in dry weather, but do not draw the earth to the stems; the admission of air and sun-heat to the roots will hasten the ripening of the tubers; the foliage, where it remains green, should be injured as little as possible. Those that are casting their haulm may be taken up. Earth up the earliest rows of celery; earth up leeks; thin out the rows of parsley, so as to get rid of every plant not well curled. Remove decayed leaves from cucumbers and gourds, to prevent the growth of moulds and fungi about them in damp weather, and take cuttings, or sow seed, for cucumbers to fruit during winter.

FLOWER GARDEN.—Propagate bedding plants for stock; of geraniums, ripe hard shoots make the best plants. Fuchsias come best from the points of young growing shoots. Strike verbenas and petunias from the points of young shoots; calceolarias should be struck in chopped moss or peat. Herbaceous plants may also be struck in quantities to keep over winter in frames, such as pansies, dielytras, double walls, double Canterbury bells, double feverfew, and holly-

hocks. Keep dahlias and hollyhocks well fastened, and put stakes to chrysanthemums before their heads get heavy, as a protection against storms. Pompones may still be struck for blooming in pots. Plant out pinks and carnations, in nursery beds, in well-manured loam. Give plenty of water to chrysanthemums, with occasional doses of strong liquid manure. Look over your bins and heaps of compost with a view to replenish for autumn potting, as there will soon be a heavy demand for that purpose. Pansies may be sown, as may also most hardy annuals, to stand over winter for early blooming next spring; the latter should be sown thick, on poor, dry, hard ground, to induce a stubby and hardy growth. Some seed should be saved for a second sowing in September, as, in the event of protracted warm weather, such as we had last year, some of the first sown may bloom this season. The sorts to sow now are calliopsis, Clarkia, collinsia, godetia, larkspur, lupinus, nemophila, nolana, French poppy, and dwarf schizanthus. There is still time to raise a stock of hardy perennials for next season, but not a day should be lost in getting in the seed. The most useful are antirrhinums, delphiniums, dianthus, geum, hollyhocks, Indian pink, lupinus, phlox, potentillas, silenes, sweet Williams, and wall-flowers. Those already up in seed beds should be looked over and transplanted, before they get drawn through being crowded. Plants left for any length of time to spindle, are likely to perish in winter, and never can make such good specimens as those that have had plenty of room from the first. Continue to bud roses and fruit trees, choosing damp, dull weather—they take best just after heavy rain. In budding on the Manetti stock, enter the bud, just above the collar, close to the ground, the proper mode of planting afterwards being to sink the base of the bud below the surface, so that the rose will root as well as the stock. Pompones chrysanthemums may still be increased. Either the tops may be struck for pot blooming, or shoots of eight or ten inches in length, may be layered into five-inch pots, and removed when moderately well established. Dwarf plants of the pompones and lilliputian varieties are very useful for decorative purposes at the end of the season, and are adapted to purposes for which large bushy plants

would not be so suitable. The large flowered kinds do not bear to be stopped so late as the poinpones.

GREENHOUSE.—Pelargoniums that have been trained out and pruned should be repotted as soon as they have broken regularly. Put them into the smallest pots into which their roots can be got, so as to allow of a series of shifts till they are once more in their blooming-pots. Young plants and greenhouse shrubs should be well hardened now, before going to their quarters for the winter. Let camellias and azaleas have plenty of sun and little water. Summer-struck geraniums, achimenes, and fuchsias, may be got into bloom now, to keep up a display till Christmas. Shift all forward stock required to bloom early. Cinerarias should now be strong, and must have no check; see that they are kept clear of fly, for they are very subject to it. A cold pit is the best place for them. Sow now for decorating the house in early spring, *Clarkia pulchella*, *Nemophila insignis*, *Erysimum Peroffskianum*, *Oenothera rosea*, *Collinsia bicolor*, *Veronica syriaca*, and Chinese primroses. Whatever needs potting put at once. Late shifts result in deaths during winter. All plants winter best when their pots are full of roots.

STOVE.—All specimen plants in free growth must have attention now to secure a perfect ripening of the wood before the season closes. Let everything have now as much sun as can be borne without injury, which is best done by removing the shading from part of the house, and there placing whatever is likely to bear the exposure. Use water freely on the paths and beds, to keep up a moist atmosphere, and give air at seasonable times liberally. Plants to be used for autumn and winter decoration ought now to be in a thriving condition; if any want a shift, attend to it at once. Stop young plants of *Euphorbia*, *Aplandera*, *Justicia*, *Poinsettia*, *Ixora*, *Aschynanthus*, etc. As the month progresses, shut up earlier, and give less and less water to the roots of plants, and especially those which should be going to rest. If we have a period of dull, chilly weather, use fire-heat, for a chill will do more harm now than in a month or two hence, when vegetation will be in a state of repose.

ORCHID HOUSE.—Orchids in full growth must have moisture and heat sufficient to maintain them in health, but the judicious cultivator will not often have to light a fire this month. Those going to rest to be encouraged by removal to a cooler part of the house, where they must have less

water, but be kept plump by frequently sprinkling the paths and stages. This is a good time to separate pseudo bulbs for increase of stock, and to pot on small plants to get them established before winter. Mr. Keane has described in a few words the best method of potting. He says:—"Fill pots with pieces of turfy peat the size of walnuts, and peg them all together until they form a cone above the pot. On the summit place your plant, which is, in fact, a piece cut off another plant, and with four pegs or wires make it fast. Let the roots go where they please in the pot, or outside it. Orchids depend more for sustenance upon the atmosphere and moisture than upon the soil." Orchids that have been a long time in the same pots need top-dressing with fresh material. Shut up at four till the third week of the month, and then slant up at three. After shutting up, syringe gently with water of the same temperature as the house. Temperature of Indian House, 70° to 75° by night, 75° to 85° by day; Mexican House, 65° to 70° by night, 70° to 85° by day.

Orchids that may be in Bloom in August.—*Aerides nobile*, *Quinquevulnerum*, *quinquevulnerum album*, *suavissimum*; *Angreum caudatum*; *Arphophyllum cardinale*; *Bulbophyllum Henshalli*; *Barkeria melanocaulon*; *Brassia Lanciana*, *Wrayii*; *Broughtonia sanguinea*; *Burlingtonia Knowlesii*; *Calanthe Domini*, *furcata*, *masuca*; *Cattleya amabilis*, *candida*, *citrina*, *crispa*, *crispa superba*, *granulosa*, *Harrisoniae*, *Harrisoniae violacea*, *labiata pallida*, *Lemoniana*, *Loddigesii*, *Mossiae*, *Schilleriana*, *violacea*; *Coryanthes maculata*, *Cycnoches Loddigesii*, *ventricosum*; *Cymbidium pendulum*; *Cypripedium barbatum grandiflorum*, *Lowii*; *Dendrobium calceolaria*, *sanguinolentum*; *Dendrochilum filiforme*; *Epidendrum Phæniceum*, *vitellinum majus*; *Galeandra Bauerii*, *cristata*; *Miltonia bicolor*, *spectabilis*; *Mormodes citrinum*; *Oncidium divaricatum*, *pulchellum*, *pulvinatum*; *Peristeria elata*; *Phajus albus*; *Phalaenopsis amabilis*, *grandiflora*; *Promenaea stapeloides*; *Saccolabium Blumei*, *furcatum*, *guttatum*; *Sobralia liliastrum*, *macrantha*, *macrantha splendens*; *Stanhopea aurea*, *Devoniensis*, *insignis*, *Martiana*, *oculata*, *tigrina*, *tigrina lutescens*; *Trichopilia picta*; *Vanda Batemanii*, *Roxburghi*, *teres*.

FRUIT GARDEN.—Throw nets over fruit bushes to keep off the birds, and give a little shade to keep a few bunches hanging for a late supply. Put wasp-traps about vines and peaches, or stick a few lumps of loaf sugar among the branches, and as

long as there is any sugar left they will not touch a single fruit. Nail in all good shoots on wall trees, that they may have the heat of the wall to ripen them. Encourage in every possible way the ripening of the wood of the season. If any trees have been allowed to get crowded, thin them a little now to admit the sunshine amongst the well-placed shoots and spurs. Windfalls to be sent into the house every morning for immediate use. Gather fruit in dry weather, and, as a rule, not till quite ripe. Plant strawberries.

Auriculas should be turned out of their pots and repotted in rich turfy loam in a very sweet state. If over potted they never do well. Keep rather close for a week after potting.

Azaleas must be trained into whatever shapes they are to have when in bloom, and the plants should be set out in a shady place to ripen their wood. Specimens to be exhibited next year must be trained out now.

Bedding Plants to be struck in quantities for next year. The great secret of keeping verbenas and petunias through the winter is to have them struck early, and either planted into boxes or pans by the middle of September, so as to be established before winter. Strike bedding geraniums in the full sun in open borders. Short cuttings make the best plants. One eye, with its accompanying leaf is sufficient of any scarce varieties, but mere eyes should not be put in the open border, but in pans under glass.

Conservatory to be kept gay by introducing a few specimen plants in good positions. Keep climbers regularly trimmed, and encourage the ripening of the wood of all hard-wooded plants, to insure plenty of bloom next season.

Cinerarias to be potted off from stock suckers and offsets; prick off seedlings; suckers not rooted to be put in as cuttings round the sides of pots, where they will make roots in a week. Beware of slugs and woodlice, which are tremendously fond of the young plants.

Chrysanthemums to be kept in order by tying out. It is too late to stop plants for out-door blooming.

Dahlias are in fine condition this season, and much benefited by the recent rains. Thin the blooms, and tie out the growth regularly, or they will spread about and get snapped with the wind. Set traps for earwigs, and use the sulphur-duster if there is any appearance of mildew.

Fuchsias struck now will make nice plants to bloom early next season. To keep beds in bloom remove the berries, and shorten in any too vigorous growth; the side-buds will push and flower soon after.

Hollyhocks to be looked over, to see if the ties are too tight; sometimes they get crippled by the swelling of the stem, causing the ties to pinch them, where carelessly tied in the first instance. See that they are safely staked, so as to withstand storms.

Hardy shrubs and herbaceous plants may be propagated now in quantities from cuttings and divisions. Use a liberal admixture of sand, and choose a shady plot of ground for the purpose.

Roses of almost every kind will strike now from cuttings. Continue budding, and, if possible, choose dull, moist weather. If the weather is dry and hot, bud in the evening, and tie a laurel leaf over the insertion to give shade.

Pelargoniums should be turned out of their pots, and the old compost shaken off for repotting, but never until they have broken well after having been cut down. Give plenty of drainage, and use as small pots as possible. Sow seeds gathered this season of all kinds of geraniums.

Pansies.—Plant out from the cutting pans during showery weather, and shade till they make fresh roots. Make the last sowing of seeds the first or second week this month.

Vines that have ripened their fruit to be cleaned. Where grapes are hanging give plenty of air, and keep the houses rather dry.

Melons to be kept safe as to bottom-heat, or they will do no good. Shut up early, syringe on fine mornings, and give plenty of water, except when the fruit is ripening, and then keep them rather dry.



TO CORRESPONDENTS.

CATALOGUES RECEIVED.—"B. S. Williams, Seven Sisters Road, Holloway. General Catalogue of New, Beautiful, Rare, and other Plants." This is one of the best lists we know, and contains a fine assortment of novelties—Petunias, Achemines, Verbenas, Geraniums, Fuchsias, etc., which may always be seen in abundance and in excellent condition at this establishment.—"E. Wolff and Son, 23, Church Street, Spitalfields. Solid Ink Pencils." We can recommend these, as we have tried them, and find they are well adapted for tallying plants. Writing done by them on the ordinary painted tallies is of a bright jet black, and cannot be washed off with water, and as the atmosphere and damp do not appear to have any effect upon them, they are not likely to become illegible from confervæ or other causes.—"Edwin Cooling, Mile Ash Nurseries, and 18, Iron Gate, Derby. Select List of Ferns, Stove and Greenhouse Plants, etc." A well-printed catalogue, with a fine collection of hardy and exotic ferns, and an excellent general list of plants.

BOOKS RECEIVED.—"The Indoor Gardener. By Miss Maling, author of 'Indoor Plants.' London, Longman and Co." This is Miss Maling's best book, and will be found of great service to those who are desirous of growing plants indoors, but are entirely ignorant of the best way to set about it. Here will be found directions for growing and preserving plants in health in the midst of dusty, smoky cities; minute descriptions of the best kinds of plant cases, and flower casements; opinions upon the different plants suitable for growing in them, with ample instructions for their management and propagation, besides useful hints upon the judicious arrangement of them for decorating purposes, upon which subject Miss Maling is a valuable authority. Those of our readers who devote their energies to the indoor cultivation of flowers, will be amply repaid for a perusal of the book, and even the general reader will find information and advice which is well worth the seeking.—"A Handbook of Vine and Fruit Tree Cultivation, as adapted to Sir Joseph Paxton's Patent Hot-houses. By Samuel Hereman, 7, Pall Mall East, London. Bradbury and Evans, 11, Bouverie Street." This is a second edition, in which the reader will find many valuable additions to the text of the former work. Mr. Hereman is a thorough master of his subject, and gives his opinions in a

straightforward, concise, pitily manner, so that we find in his book a vast deal of desirable information in a small compass, as the author comes to the point at once, and never wanders from it. Paxton's Patent Plant-houses have acquired such a celebrity, and proved themselves valuable to the gardener in such a number of instances, that it is unnecessary to say anything in their praise here; but if any one wishes to know to what a variety of useful purposes they may be applied, he has but to read Mr. Hereman's book, when, if he does not already possess one, he will at once desire to do so, for these simple, elegant, and economical structures may be applied to all the purposes of the frame, greenhouse, and stove with the certainty of success. The portion of the book devoted especially to the cultivation of fruits will be found particularly valuable to amateurs, and there are few gardeners, however practical they may be, but may gain some hints from it which will be of infinite service. The lists of fruits recommended are selected with great care and judgment.—"Practical Remedy for Extortion and Intimidation, practised by the aid of the Superior Law Courts. London, W. H. Collingridge, 'City Press,' 117 to 119, Aldersgate Street." In a pamphlet bearing the above title, the author suggests a remedy for the gross extortion which is being continually practised by unprincipled members of the legal profession, to the great annoyance and cost of the community, and the scandal of the respectable lawyers, which happily are numerous. That such things can be done with impunity, and the perpetrators escape unpunished, is no great credit to English justice; but whenever a rascally lawyer and a needy client like to conspire, they can perpetrate such robberies, by making a false charge against some wealthy person either of wrong professional advice, an infringement of the patent law, a charge of fraud, or a charge of *ultra vires* where there is a trust, or something else calculated to prejudice the public mind against him; and many a man pays a smart sum rather than put himself to the trouble and annoyance of fighting it out. So common have such things become that in the imaginary cases given by the author, the reader will fancy he remembers some of the circumstances. If this pamphlet proves the means of establishing an efficient remedy, it will have conferred a great benefit upon society, and will cleanse the

legal profession from a stigma, from which they cannot at present rid themselves.

SIMPLE METHOD OF TAKING HONEY.—*J. R. P.*—In the "Garden Oracle" for 1863 we described a much more simple method than yours. Lift up the box with a screw-driver or chisel, sufficient to draw a wire through to cut any comb that may be attached to the crown board of the stock. Then lift the honey-box away, and place it on a flat board, without troubling about driving the bees out. Carry it away to a cool shed or room. Darken this place slightly, and half-an-hour after taking the box, place it near a window, or similar outlet, and tilt up that side of the box which is next the outlet with a piece of wood the thickness of a black-lead pencil. The bees will rush out, and make direct for the hive. In the course of half an hour remove the wedge. Next morning put in the wedge again for half an hour. Any time afterwards during the same day turn the box up, and remove what few bees remain, by whisking them out with a feather. You are, of course, aware that honey should always be taken in bright weather, and at mid-day.

SPERGULA ON SLOPES.—*W. R. Allen.*—A slope on a terrace is the best of all places to show the beauty of the spergulas. The best for you is *Spergula saginoides*, and instead of sowing seed, you had best obtain turf, as it is now very cheap, Messrs. Carter having propagated most extensively at one of their farms. This is a good time either to sow seed or lay down turf of spergula. If seed, sow thin; if turf, plant pieces an inch square, three inches apart, and beat it level. It will require to be kept well weeded at first, and be beaten once a fortnight all the year round for ever. You may plant anything now in the way of evergreens, Americans, and conifers, and at the end of October, deciduous trees and shrubs.

BROCCOLIS ALL THE YEAR ROUND.—*S. C. M.*—Sowings should be made every three weeks from the middle of March till the middle of August. The early sowings should be of Snow's and Lee's sprouting. The April sowings should be Brimstone, Elletson's, and Purple Cape. Then from May to July sow Granger's, Snow's, and Conning's—the last sowings should be Walcheren and Protecting. Plant for standing the winter rather close, as they are then less likely to suffer by frost. You must use a good many sorts to have a constant supply.

SCARLET GERANIUMS.—*Rob Roy.*—As you are a disciple of the old school, and love a fine pip, procure geranium Dr. Lindley, sent out by Bull. It is the finest formed flower of any known. The petals of immense breadth. Beauty of Brixton and Rubens Improved will also suit you. Cottage Maid produces enormous trusses, but the pips are not remarkable at all.

SEEDS TO BE SOWN IN AUGUST.—*R., Bromley.*—Yes; this is the best time in the whole year for sowing seeds of herbaceous plants, but there is no time to lose, and the last week in July is a trifle better than the first week in August. From the 1st to the 10th, sow in the kitchen garden Green Colewort, Cattell's Reliance, Early York, and Atkins's Matchless Cabbage. In the flower garden or reserve ground, *Aconitum album*, *A. napellus*, *A. Canariensis*; *Agrostemma Flos Jovis*, *Alyssum saxatile* (the best of all the yellow spring flowers); *Anthyllis vulneriana rubra*; *Antirrhinum* of sorts; *Aquilegia* of sorts; *Arabis alpina* (one of the best white-flowering plants in spring); *Armeria formosa*, and *A. longiaristata*; *Astragalus purpureus*; *Ambrietia deltoidea* and *A. purpurea* (most useful of dwarf flowering plants for spring and summer); *Campanula grandiflora*, *C. Boroniensis*, *C. lactiflora*, and *C. Carpatica*, Canterbury Bell; *Catananche cerulea*; *Delphinium formosum*, *D. sinensis*, and *D. giganteum*; *Dianthus atrorubens*, *D. giganteus*, *D. Japonicus*, *D. latifolius*; *Digitalis* of sorts; *Eupatorium corymbosum*; *Lupinus elegans*, *L. polyphyllus*, and *L. magnificum*; *Lychnis chalcedonicæ*, *L. Haageana*, *L. viscaria*; *Mimulus rivularis* and *M. cupreus*; *Myosotis alpestris* and *M. palustris*; *Oenothera Lamarckiana*, *Æ. Jamesii*, *Æ. taraxacifolia*; *Pentstemon campanulatum*, *P. cordifolium*, and *P. Murrayanum*; *Potentilla atro-sanguinea* and *P. splendissima*; *Rose Campion*; *Rudbeckia fulgida*; *Saponaria ocyroides*; *Silene alpestris* and *S. Schafta*; *Sweet Williams*.

CHRISTINE versus HELEN LINDSAY.—*C. C.*—We are not yet sure about the value of Helen Lindsay as a bedder, because our plants are not old enough to be put into competition with Christine; but the colour and habit are advances on Christine, in fact, Helen Lindsay is the best colour of all the rosy race of dwarf geraniums.

MOWING MACHINES.—*Semper Augustus.*—We believe there is now no such thing as a bad mowing machine to be found in any factory. But some are better than

others. We are best acquainted with Shanks's, Green's, and Samuelson's. We used Samuelson's for five years, and were always pleased with it, and the machine is now doing duty on a cricket field, and after seven years' use is as good as ever. We use now one of Shanks's 16-inch machines, which is remarkably easy to work, and so admirably made that it is scarcely possible for it to get out of repair, and also one of Green's little Silens Messors, which is useful for verges and fancy work. A child could use the last-named, and it would pay the proprietor of the smallest town plot to have one to keep his grass in better order than is possible with the scythe. In fact, the scythe itself ought to be abolished.

VERMIN IN FERN CASES.—*Lady D. N.*—The specimens sent appear to have been eaten by slugs or snails, probably introduced in the soil or with the ferns when the case was planted. We have frequently had such things happen, but have always found it an easy matter to trap the vermin. We have placed scraps of fresh lettuce leaf under pieces of tile, and have sometimes used buttered cabbage leaves, which they are very fond of. Perhaps by searching the case at night you may catch the marauders at supper. But there is a very pretty way of exterminating snails and slugs in fern cases, and that is to put in a few glow-worms. They light up the ferns at night with quite a fairy-like illumination, and they hunt snails and slugs as cats hunt mice.

PLANTING UNDER TREES.—*A. B.*—Any of the Saxifrages will do well under trees. The safest place for them is a slope in a peaty soil, where the air is humid, but where they will not be subjected to stagnant wet in winter time. Periwinkles are quite at home under trees, but Sedums require open sunny positions. The specimens sent are *pedatifida*, *muscoides*, and *Sternbergii*. The second of these three is a beauty. As you are fond of these things you should secure *S. pyramidalis*, which is a most elegant plant when in bloom, and makes a nice specimen in a five-inch pot. The Sedum next month. London Pride is *Saxifraga umbrosa*; white Arabis and Aubrietia are cruciferous plants, and quite distinct from the Saxifrages, as you will see by dissecting flowers and seed-pods. By clay for the foundation of rockeries, we mean any kind of stiff tenacious soil. The height of the rockery averages five feet, but runs down in some places to ten, and in others rises to seven or eight, and is then broken into ledges. To kill weeds

on walks sprinkle *dry salt* in dry weather, and take care none touches grass or box-edging.

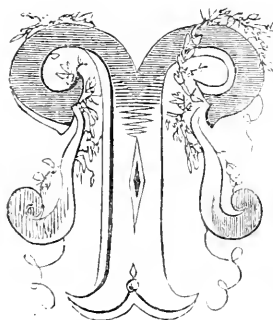
VARIOUS.—*A. B.*—Your supposed fern is *Spirea ulmaria*.—*Subscriber*.—The yellow flower is *Limnanthes Douglasi*; the purple is the variegated *Ajuga reptans*, a charming thing for a rockery.—*A. B. S.*—Any old chest or box will make a fumigating case, if fitted with a lid nearly or quite air-tight; or if that cannot be done, cover it with a wet cloth or mat when in use. Put the plants in it, and use a Brown's fumigator, inserting the end of the delivery pipe in a hole made for the purpose, and then puff away. If you burn the tobacco in the box you will kill the plants. Try another plan, have a vessel full of water heated to 150°. Take a plant in your hand as if you were going to turn it out of the pot, that is with the fingers on the soil, turn it upside down and dip it in the hot water, and work it up and down a few seconds, then lay it down on its side to drain in a shady warm place; when dry it will probably be free of fly, and keep so for a long time, as the heat kills the insects and their eggs, and does not hurt the plant. Try this first with things of small value.—*C. J. R.*—It is very difficult to get up the Feather grass from seed. You may get a plant in a pot at a very low price, and this, if planted out, may be increased by removing small tufts with roots attached, and potting them in small pots, in sandy loam. That is the way we have always managed it, and our stock is sometimes large, as we use it occasionally for furnishing. *Atriplex hortensis rubra* is an annual of which seed may be had very cheap. It is best sown in the open ground or in pots in April. It should never have artificial heat.—*A. M.*—You can obtain one of Pickard's, which are the best, at from two to eight guineas. If you want one made to pattern, apply to Messrs. Treggon, Jewin Street, London. Any rose will grow on a good loamy soil, so you can select according to your taste. To tell the whole story of fern sports will, we hope, be our business some day, but we could not say a word about it here. It is a great subject.—*S. C. M.*—We should advise you to have the variegated laurel inarched upon common laurel. Grafts and buds would probably fail. The first step will be to plant common laurel near it, or get a quantity of laurels in pots to inarch upon.—*R. B.*—"Profitable Gardening" is the book for you.

THE FLORAL WORLD

AND GARDEN GUIDE.

SEPTEMBER, 1863.

CULTURE OF OXALIS.



THE majority of the species of *Oxalis* cultivated in our gardens are natives of the Cape of Good Hope, and therefore require the protection of a greenhouse. There are, however, a few hardy species, and a few which, being natives of the tropics, require the stove. Most of them have bulbous roots, and all are of easy culture. They are not generally of a showy character, but they are all more or less graceful in habit, and a few of the species are invaluable for purposes of ornament. The *Oxalids* constitute a separate order in the Natural system, called

Oxalidaceae. The characters of this order are hermaphrodite flowers, calyx and corolla each of five pieces, stamens ten, united at their base, anthers two-celled, ovary free, five-celled, fruit a berry or capsule. The most notable physical characteristic of the family is its acidity, usually owing to the presence of oxalate of potassa; but some of the species are bitter and carminative, and in a few cases the tuberous roots are mucilaginous and edible. The type of the order is our common wood sorrel, *Oxalis acetosella*, which abounds in the woods and shady hedgerows of this country, and is one of the most elegant of wild flowers. There is very little doubt that the wood *Oxalis* is the true Shamrock, though in the present day clover is largely used on St. Patrick's day. On a few occasions within the last half century some species of *Oxalis* have acquired importance, as supposed substitutes for the potato. *O. Deppei*, introduced from Mexico in 1827, produces a root like a parsnip, which is much esteemed as an esculent. *O. tuberosa* produces tubers, which, after being exposed to the sun in woollen bags for ten days, lose their acidity, and become dry and mealy like a potato. *O. crenata*, a native of Peru, has been grown in this country as a substitute for the potato; the tubers are small and mealy, and of a pleasant acid flavour; but the produce is not sufficient to render the plant worthy of attention, except as a choice esculent. All the species of *Oxalis* are of easy culture; even the tender

kinds will bear a considerable degree of cold, and they enjoy a remarkable immunity from attacks of insects. Generally they require a sandy soil and a shady situation, and they are easily propagated by seeds, cuttings, and offsets, according to their several characters.

HARDY SPECIES OF OXALIS.—Many of the greenhouse species submit to be treated as hardy plants very readily. *O. rosea* may be sown in April on a shady border, and will make lovely patches of light green foliage and rosy flowers all the summer; it is, in fact, one of the best of hardy annuals, and when treated as a greenhouse perennial may be bloomed at almost any season. The soil for this beauty should be leaf, rotten dung, peat, loam, and sand equal parts; it never attains its full beauty in loam alone, or in loam simply improved with manure. *O. corniculata* is a British plant bearing yellow flowers, and a very pretty subject for shaded banks and rockeries. A garden variety of it, called the "Variegated Oxalis," is one of the most curious of all the garden varieties we possess,



OXALIS ELEGANS.



OXALIS DEPPEI.

the leaves being stained a deep blackish purple or bronze, considerably richer in tone than in the well-known black-leaved clover. This Oxalis is coming into use for garden groups and beds, and merits the attention of all who are interested in the subject of garden colouring. Other hardy species, easily grown in sandy soils and shady situations, are the following:—*Dillenii*, copper-coloured flowers; *levigata*, purple flowers; *sensitiva*, pale yellow; *stricta*, yellow; *alba*, bulbous-rooted, white flowers; *Americana*, bulbous-rooted, white flowers; and *violacea*, bulbous-rooted, and violet flowers.

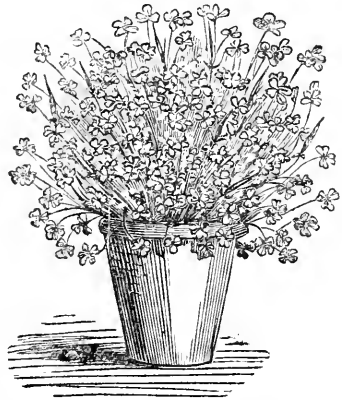
GREENHOUSE SPECIES OF OXALIS.—When grown in pots, these mostly require a mixture of turfy loam, turfy peat, dung rotted to powder, and silver-sand, equal parts of each. They must have good drainage, shade, and plenty of water while growing. During winter, the tuberous kinds must be kept dry and safe from frost, but the shrubby kinds must be kept just moving in a temperature not lower than 35°, and not higher than

45°. The following are a few of the most useful greenhouse species:—*Crenata*, *Bowiei*, *floribunda*, *pulchella*, *Simsii*, *elegans*, *caprina*, *speciosa*, *tetraphylla*, *versicolor*.

Oxalis crenata.—The tubers of these are eaten either boiled or roasted, and by some are considered *recherché*. The stalks are said to be superior to rhubarb for tarts, having a flavour resembling pine-apple. The leaves are said to make an elegant salad. For purposes of ornament, this is one of the most useful. The flowers are of a bright orange colour, and are fine and showy; it never produces seed, and is therefore propagated from offsets. The tubers should be planted singly in small pots in April, and be placed on a gentle heat in a frame, or put in a peach-house or vinery, and be kept freely aired till May; then plant them out in light rich soil, three feet apart. As soon as the stems have grown sufficiently to allow of earth being heaped over their stems, they must be very carefully moulded up; the stems will throw out fibres into this additional soil, and there the best tubers are produced.

O. tetraphylla produces an edible root, which may be used as a substitute for the potato. This is not particular about soil, but requires, like the preceding, to be started under cover, so as to get it planted out strong when all danger of frost is over.

O. Deppei is propagated by means of the scaly bulbs, which grow in a cluster round the crown of the root. To insure a good crop, plant the bulbs in small pots in March in any good sandy soil, and place in a cold frame. If kept only moderately moist and freely ventilated, without being exposed to cold winds, the bulbs will have filled the pots with roots by the end of April, when they may be planted out in the open ground in light rich soil, and in a western aspect, fifteen inches apart every way. Keep the ground clear of weeds, and give plenty of water in dry weather. In October take up the roots, and store away in sand, and prepare them for table. The tubers must be washed and peeled, and then boiled in gravy, and served up hot with brown butter sauce. *Deppei* may also be treated as a hardy plant, but there is some risk of loss or of unsatisfactory production. In the southern counties, sheltered borders would probably suit it, without any more protection than a covering of litter during frost.



OXALIS CORNICULATA RUBEA.

O. floribunda.—At the end of February divide the fleshy roots, reserving to each piece a growing bud. Lay them on a pan of sand, and cover them with the same material, and place them immediately on a tank, or bark bed in a stove or propagating-house, to start them in a brisk heat. In about twelve days they will be growing freely. Now prepare 60-sized pots, with equal parts loam, peat, rotten dung, and sand, turn the plants out of the pans, and pot them separately and carefully, and put them in heat again, and with very little water till they begin to grow; then cool them down, and place them in the greenhouse. If care-

fully hardened, they may be out of doors in May, and will make a fine bloom in a shady border.

O. Bowiei requires a brisk heat to start it into growth, when the tubers are potted in spring. The soil to start them in should be loam and peat, with a little sand. This may also be planted out after being properly hardened; but as it rarely blooms satisfactorily in the open air, we advise that it be always grown under glass.

STOVE SPECIES OF *OXALIS* are few in number, and require precisely the same routine treatment as the greenhouse kinds, with the exception that they must have a higher temperature. Those which require the stove are—*O. Plumieri*, *fruticosa*, *Barrelieri*, and *chinensis*.

PROPAGATION OF *OXALIS*.—All those which produce seed may be most easily increased from seed, as it quickly germinates if sown in pans filled with sandy soil, and placed on a moderate bottom-heat. The seedlings must be pricked out as soon as large enough, and the comparatively hardy species should be planted out in shady borders, and be taken up in October. The best time to sow the seed is the end of February, as there is then a good chance of flowering them all the same season. Bulbous kinds will furnish abundance of offsets, which should be removed when the bulbs are taken up. The shrubby kinds are easily propagated by means of cuttings, which should be taken in spring, and have a brisk bottom-heat to cause them to root quickly; when rooted to be potted off, and grown on as described above for the several groups and species.

RECENT FLOWER SHOWS.

THE BIRMINGHAM ROSE SHOW, JULY 16TH AND 17TH.—The annual display of roses at the Town-hall, Birmingham, is always one of the most important exhibitions of the season, and the last one was upon a scale which did honour to the queen of flowers. The blooms were generally excellent, although, of course, among such a vast number there were many which had not yet attained their best, and many others which were past it. The new roses of 1860-61-62 were largely shown in the classes devoted especially to them, and formed a considerable proportion of the other collections, which may be taken as a great point in their favour.

In the nurserymen's class for ninety-six varieties, one truss of each, Mr. B. R. Cant of Colchester took the first prize; Mr. John Keynes of Salisbury, second; Messrs. Paul and Son, Cheshunt, and Mr. W. Paul, Waltham Cross, equal third. The most perfect flowers among them were Madame Vidot, François Lacharme, Gloire de Dijon, President, and

an immense bloom of *Lælia* in Mr. Cant's lot; Maréchal Vaillant, Mdle. Bonnaire, Madame Knorr, Comtesse Ouvaroff, Alphonse Karr, Beauty of Waltham, Triomphe de Rennes, Madame Boll, Madame Hector Jacquin, Jules Margottin, Jean d'Arc, Olivier Delhomme, Gloire de Santhenay, Souvenir de Comte Cavour, Général Jacqueminot, Gloire de Vitry, Comte de Nanteuil, Baron Gonella, and Sénateur Vaisse, in Mr. Keynes's lot; and in the other collections La Boule d'Or, Eugène Appert, Souvenir d'un Ami, Gloire de Santhenay, Triomphe de Caen, Madame Charles Wood, Prince Camille de Rohan, Louise Magnan, Baron Gonella, Eugène Desgaches, Comtesse Cécile de Chabillant, Jaune of Smith, Duc de Rohan, Madame Pierson, Niphetos, Duc de Cazes, and Louis XIV.

First for forty-eight varieties, three trusses of each, Mr. John Keynes of Salisbury, with a stand of beautifully fresh and fine flowers; second, Messrs. Paul and Son, Cheshunt; third, Mr. B. R. Cant, Colchester. In the class for

twenty-four varieties, three trusses, Mr. Keynes was first, Mr. W. Draycott, Humbstone, near Leicester, second, and Mr. G. Batley of Rugby, third. The class for twenty-four, single trusses, was open to nurserymen in the counties of Warwick, Worcester, and Stafford, Messrs. S. Perkins and Sons of Coventry obtained the first prize; Mr. W. H. Treen of Rugby, second; and Mr. G. Batley, third.

Mr. J. T. Hedge of Reed Hall, Colchester, was as usual the most distinguished exhibitor among the amateurs, taking first prize for forty-eight varieties, first for twenty-four, and second for eighteen. In his collections were magnificent blooms of Comtesse Cécile de Chabrillant, Jaune of Smith, Beauty of Waltham, Reine Victoria, Madame Charles Wood, Alexandre Fontaine, Mrs. Rivers, La Boule d'Or, Auguste Mié, Louis Magnan, Solfaterre, Triomphe de Caen, and Louis XIV. The second prize for forty-eight was awarded to Mr. S. Evans, gardener to C. Newdegate, Esq., M.P., Nuneaton, Warwickshire. The open classes were admirably filled, Mr. John Keynes taking first prize for twenty-four new roses of 1860-61-62; the second prize went to Messrs. Paul and Son; and the third to Mr. C. Turner. Mr. J. Keynes was also first with the best new roses, six trusses, and the varieties shown were Olivier Delhomme, Maréchal Vaillant, Charles Lefebvre, and Madame Furtado; second, Mr. William Paul, with Beauty of Waltham and Madame Furtado; third, Messrs. Paul and Son, with Madame Charles Wood. Mr. Cranston showed Louis XIV.; Mr. Francis, General Washington; and Mr. Cant, Madame Furtado. In the class for the best six varieties of roses, single trusses, with stem and foliage as cut from the tree, each truss to be shown singly in a vase, Mr. E. P. Francis, of Hertford, obtained the first prize.

The plants used for the decoration of the hall were contributed by the surrounding gentry; among them were excellent specimens of *Maranta zebra* and *Cissus discolor*, besides good specimen ferns of the following

species:—*Pteris argyræa*, *Acrostichum aleicorne*, *Adiantum alline*, *A. brasiliense*, *A. euneatum*, and many others; there were also several *Caladiums*, *Begonias*, *Coleus Verschaffeltii*, heaths, etc., and although they were not very fine specimens, yet they answered the purpose for which they were intended admirably, and formed pleasant objects for the eye to rest upon when fatigued with looking at the brilliant masses of roses.

FLOWER-SHOW AT ALEXANDRA PARK, HORNSEY, JULY 23RD AND 24TH.—The opening of this new place of public amusement and recreation was celebrated by a large horticultural exhibition, which took place in tents pitched in a meadow close to Muswell Hill, and from which a very pretty view could be obtained. The largest of the tents (190 feet by 50 feet) was devoted to stove and greenhouse plants; the next (75 feet by 50 feet) was filled with fruit and cut flowers; a third contained fuchsias, achimines, gloxinias, petunias, cut roses, and pelargoniums; and in the fourth were orchard-house trees, loaded with fruit, from Messrs. Lane and Messrs. Fraser.

Fine-foliaged plants were largely shown, and exhibited numerous examples of skilful cultivation. *Alocasia Lowii* was very conspicuous, so also were many fine samples of *A. metallica*, besides *Dracænas*, palms, cordylines, and many others, which were shown in great perfection. Messrs. John and Charles Lee of Hammer-smith obtained first prize with beautiful plants of *Cyperus alternifolius variegatus*, *Cissus discolor*, *Caladium Belleyei*, *C. bicolor*, *Ixora coccinea*, *Rhopala magnifica*, *Alocasia Lowii* (beautiful), *A. metallica*, *Ananassa sativa variegata*, *Cordyline indivisa*, *Theophrasta imperialis*, *Neottopteris Australasia*, and *Yucca aloifolia variegata*. Mr. B. S. Williams was second.

STOVE AND GREENHOUSE PLANTS were furnished in considerable numbers, the specimens of *Allamanda*, *Stephanotis floribunda*, *Gnaphalium eximium*, *Pleroma elegans*, and various sorts of *Kalosanthes* being particularly fine. Prizes were offered for collections, both in and out of bloom, effec-

tively arranged. This contributed very much to the beauty of the show, for on every side were to be seen gigantic tree-ferns, and immense plants of *Maranta*, *Alocasia*, *Caladium*, *Cynophyllum*, and smaller plants without flowers, interspersed in the most charming manner with orchids and various other plants in bloom, which delighted the visitors amazingly. Messrs. A. Henderson and Co. were awarded first prize for a very beautiful collection. Mr. B. S. Williams of Holloway obtaining a second.

Achimines were shown in plenty, and were mostly well grown; but there were only a few *Gloxinias*, and those not at all remarkable for beauty. The *Achimines* shown were Dr. Hopf, French white with mauve eye, *Buckmanni hirsuta*, *Longiflora major*, Gem. *Marguerita*, *Meteor*, *Grandiflora*, Dr. *Buenzod*, *Dazzle*, Carl *Wolfurth*, *Ambroise Verschaffelt*, *Rosea magnifica*, and *Longiflora alba*. Mr. Monk was first and Mr. Uzzell second. Mr. Taylor was first for *gloxinias* and Messrs. Lee second.

Scarlet Geraniums were shown in moderately good lots of six, but they were none of them thoroughly first-rate. Mr. Duke's lot was by far the best, and consisted of *Brilliant*, *Aurora*, *Tom Thumb*, *Rubens*, *Frogmore*, and *Masterpiece*; second, Mr. Windsor.

Ferns were exhibited extensively, and most of them were well selected and admirable specimens. The tree-ferns furnished by Mr. Williams were superb, elevated on huge stems, with huge, beautifully green, palm-like fronds. In the various collections were excellent specimens of *Pteris argyrea*, *Pteris cretica albo-lineata*, *Platynerium alaicorne*, *P. grande*, *Adiantum formosum*, *A. pedatum*, *A.*

cuneatum, *A. assimile*, *A. nidus*, *Davallia pyxidata*, and *D. bullata*. Mr. Williams was first with twelve, and Mr. Woolley second. First for ten, Mr. Young; second, Mr. Taylor. Six tree-ferns, first, Mr. Williams; second, Messrs. Lee. Mr. Young had a nice collection of *Selaginellas*; in the centre a pan of *S. caesium*, three feet across; also good pans of *denticulatum*, *Wildenovi*, *formosum*, *Stolonifera*, and *microphylla*.

Ericas.—There were many finely bloomed plants shown, and also several which were decidedly inferior. Messrs. Lee had a fine plant of *Vestita coccinea*, the foliage sparkling with freshness and the plants covered with fine bunches of carmine flowers. The best ten were from Messrs. Jackson; among them were good examples of *Aitonii*, *Turnbulli*, *Nobilis*, and *Ventricosa Bothwelliana*. Mr. Rhodes had particularly good plants of *Infundibuliformis* (crimson tube and flesh-coloured limb), *Princeps roseum*, and *Parmenteri*. The awards were, ten—first, Messrs. Jackson; second, Mr. Rhodes; eight—first, Mr. Gilbert, second, Mr. Wheeler; six—first, Messrs. Lee; second, Mr. Rhodes.

Cut flowers were shown in large quantities, some of the hollyhocks and dahlias being surprisingly beautiful. Mr. Cutbush sent superb bunches of *pelargoniums*; Mr. Bragg, dahlias, hollyhocks, pansies, and picotees; Messrs. Downie, Laird, and Laing, hollyhocks in marvellous perfection; Messrs. Perry, Smith, and Grimby, verbenas. Large collections of cut roses were from Messrs. Paul and Son, Mr. W. Paul, Mr. Francis, and Messrs. Fraser. The leading amateur exhibitors were Mr. Corp, Mr. Perry, and Mr. Weymouth.

A SELECTION OF HARDY VARIEGATED PLANTS.

WE have lately had the pleasure of inspecting the immense and very curious collection of variegated plants in the nursery of Mr. John Salter, William Street, Hammersmith, and as we cannot make room for a detailed

report of our visit, we have thought it best to enumerate a few of the most generally useful of these interesting subjects, giving the preference throughout to such as are especially adapted for purposes of decoration in

the garden, greenhouse, and conservatory.

PLANTS SUITABLE FOR EDGINGS TO BEDS, CLUMPS, OR ROCKERIES, ETC.

Ajuga reptans fol. var.—This forms a close tufted mass of grayish foliage, and in spring produces abundance of its purplish blue flowers. It is invaluable for a clump in front of a rockery. *A. r. f. alba maculata* has large leaves blotched with creamy white. *A. r. f. purpurascens* is uniformly coloured in leaf and stem alike, a deep bronzy purple, somewhat of the same tone as *Perilla Nankinensis*. Like the others, it blooms freely in spring.

Alyssum saxatile fol. var.—The well-known "variegated Alyssum." It is not quite hardy.

Arabis alpina fol. var.—This is the well-known "variegated Arabis," one of the best close-growing variegated plants for edgings, and may be left out all winter on well-drained soil. It is also known at the nurseries as *A. albida*, *A. caucasica*, and *A. præcox*.

Arabis lucida fol. var.—This is the most beautiful of the variegated varieties of *Arabis*, and is at present very little known. The leaves are glossy, and regularly striped with rich yellowish ribs and veins. Though less reticulated, it is nevertheless very much like the variety of common daisy known as *Aucubifolia*, which is the prettiest of all the small-growing, hardy variegated plants. This *Arabis* is largely used as an edging at Kew this season.;

Arabis procurrens fol. var.—In character like *alpina*, and useful for rockeries.

Artemisia maritima, glacialis, and *pinnata* are elegant glaucous-leaved plants, which may be turned to good account in garden colouring; the last-named makes a lovely edging, and they may all be propagated to any extent by means of cuttings.

Artemisia vulgaris fol. var.—There are two forms of variegated wormwood, one with white, the other with yellow variegation.

Bellis perennis fol. var.—This is not very attractive at this time of

year, but in the spring it is a charming thing either for the greenhouse or the border. It should always be grown in pots extra well-drained, and in poor soil. It cannot be rapidly multiplied, but if divided in the autumn, a large stock may be got up in a few years for forming masses when it is in bloom.

Centaurea candidissima is the whitest leaved plant known, and a very grand subject for bedding purposes. It is not quite hardy, and must be potted up in autumn, and kept in an airy greenhouse, or pit all winter, and to have very little water.

Centaurea Ragusina.—This is the finest of the race in habit, and makes either fine specimens in pots or noble lines in beds and ribbons. It is a difficult thing to propagate, the best way to deal with it is to keep it in the greenhouse all winter, and give it no encouragement to grow. In February put it in a moderate heat for about ten days, and then take off the side-shoots, and dibble them into silver sand, and place on bottom-heat. The only precaution necessary is to supply them with very little water, as they are likely to damp off if kept very moist. When rooted, pot in thimble pots, using half leaf-mould and half silver sand.

C. argentea, *C. dealbata*,* *C. gymnocarpa*, and *C. nigra*,* are all handsome and useful for rockeries and borders, and any soil will suit them, but they like a dry position. The two we have marked thus* may be left out all winter if in an elevated position.

Chelidonium majus fol. var.—A fine subject for a damp corner of a rockery, or where any rather coarse, but attractive plant would be suitable.

Convallaria majalis fol. var.—This is the variegated Lily of the Valley, and one of the gems in Mr. Salter's collection. It will do well in the shady part of a rockery, but should also be grown in pots.

Diploxaxis tenuifolia fol. var.—This is a first rate variegated plant for edgings and rockeries, the leaves are marked with creamy lines and blotches; quite hardy, and may be increased *ad lib.* by autumn cuttings.

Galeobdolon luteum fol. var.—There are two variegated forms of this noble dead nettle. They are both worth a place in any garden.

Funkia alba marginata fol. var., *F. orata fol. var.*, and *F. undulata fol. var.*, are the three best variegated Funkias, they make fine rockery clumps, and if grown in pots will be useful for furnishing when in bloom.

Glechoma hederacea fol. var.—There are three variegated kinds of ground ivy; all well adapted for borders, banks, and rockeries.

Gnaphalium dioicum.—A very neat tufted-growing glaucous-leaved plant, quite hardy, suitable for edgings.

Hedera helix elegantissima, *H. h. maculata*, *H. h. fol. var. sulphurea*, and *H. h. argentea*.—These are variegated varieties of the common English ivy; they are exquisitely beautiful, and when used as edgings to long ribbon lines or great circular beds, they have a very grand effect, and are lively all the winter. The last named is the best for an edging.

Oxalis corniculata rubra.—This small oxalis has leaves of a deep bronzy purple, or purplish brown colour, and when grouped with plants with silvery and golden leaves, has a very curious and quite rich effect. It grows freely, and is quite hardy. Small clumps of it have a dull and almost dingy appearance, but when used extensively and judiciously, it is one of the best of "foliage bedders."

Plantago major fol. rubescens.—This is a plantain with purple leaves, and may be turned to account for clumps. We saw it last year in the nursery of Mr. Williams, Holloway, in a bed with variegated coltsfoot, and the effect was decidedly pleasing as well as curious.

Prunella vulgaris fol. var.—A good rockery tuft, but not smart enough for edgings.

Ruta gravecolens fol. var.—This is a variegated form of the common Rue, and is one of the best things of the kind in our own collection. It forms a noble ornament on a raised bank, and to keep it true, it should be planted in a mixture of poor loam,

small pebbles, and old mortar broken small, equal parts. In a good soil it loses its lovely yellowish white variegation, and returns to its original healthy green colour. In poor chalky soils, where gardeners have great difficulty in the cultivation of bedding plants, this will be found useful, but it is of too upright and rigid a habit to enter largely into bedding schemes.

Stachys lanata.—The best of all the woolly leaved plants for gardeners whose means are limited.

Thymus vulgaris fol. var.—A very pretty gray-leaved thyme, not showy enough for beds, but very elegant in a rockery.

Trifolium rubrum pictum.—This is commonly called Shamrock, but incorrectly so, for Shamrock is *Oxalis acetosella*. It is a clover with leaves stained a deep purplish brown, in early spring nearly black. A large tuft on a bank has a very fine appearance. Mr. Salter uses it as a bedder, and has some very pretty groups, but it is only in positions removed from the general display in a flower garden that it could be appropriately used for that purpose.

Veronica incana, a pretty dwarf-growing silvery-leaved plant, quite a gem.

Vinca major fol. elegantissima, *V. m. reticulata.*—Two lovely forms of the great Periwinkle. The first has creamy margins, the second is veined all over in a similar way to the lovely *Lonicera brachypoda variegata*.

Vinca minor fol. var. argentea, *V. m. fol. aurea.*—The first has margins and streaks of white, the second creamy yellow; they are fine for edgings, and very effective in large clumps under trees.

ORNAMENTAL GRASSES.

Agrostis colorata fol. var.—A fine strong-growing hardy grass, with the leaves regularly ribbed with silvery white.

Agrostis vulgaris fol. var.—Makes a fine tuft on a bank.

Aira cespitosa fol. var.—An exquisitely delicate grass of free growth, and a good companion to *Festuca glauca*.

Arundo phragmites fol. var.,
Arundo donax versicolor.—Two noble
grasses for the margins of lakes and
damp shady places. The second of
the two needs protection in winter.

Arundo Mauritanica fol. var..—
Not quite hardy, but may be planted
out all summer. It is the finest of all
the Arundos, and admirably adapted
for exhibition.

Calamagrostis arundinacea fol.
var..—Elegantly edged and striped,
grows strong, and is well worth a
place in an amateur's collection.

Dactylis glomerata fol. var..—A
pretty grass of moderate growth, it
forms a glittering tuft when grown
on a bank of poor sandy soil.

Elymus arenarius glaucus..—A
very noble glaucous-leaved grass of
very strong growth. Remarkably
effective on a bank.

Festuca glauca..—A lovely grass
of rather low growth, forming dense
tufts of fine glaucous foliage. Easily

propagated by dividing, does best in
poor sandy soil.

Melica cerulea..—A pretty com-
panion to *Aira cæspitosa*.

Phalaris arundinacea fol. var..—
The well-known ribbon grass, of late
years much esteemed on account of
the admirable use made of it for edg-
ing beds of dahlias and hollyhocks at
Kew. It is very beautiful on a high
dry sunny bank in front of dark ever-
greens.

VARIEGATED TREES AND SHRUBS.

Fuchsia corymbiflora fol. var..—
Flowers as freely as the normal form,
and is a very beautiful object for the
conservatory.

Fuchsia globosa fol. var., *F. ma-
culata*, and *F. pumila* are three
very pretty variegated fuchsias, well
adapted for vases, beds, and pot cul-
ture.

FRUIT CULTURE—OUT-DOOR GRAPES.

THE cultivation of the vine (*Vitis
vinifera*) in the open air is one of
the most universally favourite amuse-
ments with amateurs in the southern
and middle counties of England. The
care and attention bestowed upon
them year after year, in spite of the
fact that they are perhaps in the
most unfavourable situation, and that
in five years out of six the berries
remain obstinately green and sour,
or turn rotten and fall off, is certainly
deserving of better success. The
proprietor, however, nothing daunted
by repeated failures, prunes in the
autumn, waits patiently all winter,
watches with delight the bursting of
the buds in the spring, chuckles over
the fact that a splendid crop of fruit
is set, so at once sets to work, nails
up the shoots, strips off the leaves
which cover the bunches so as to
give them the full benefit of the sun,
and to make "assurance doubly sure,"
buries his lately defunct "tabby"
near the roots, and then with the self-
satisfied air of a man who has done
all that a mortal can do, he leaves

the rest to the weather and to Pro-
vidence, and is again disappointed.
Such practice as this is but too
frequent, notwithstanding the vast
amount of philosophy which has been
disseminated of late years, and the
numerous excellent practical treatises
upon fruit culture which are con-
tinually issuing from the press; the
wonder is that experience alone does
not teach them better, but even that
frequently fails to enlighten the
amateur vine-grower.

The point of the greatest import-
ance in the out-door culture of the
vine is the duration and heat of the
summer. Thus, although the mean
temperature of England is as high
and even higher than in some coun-
tries where the grape ripens without
any difficulty, it will be found that
while England is warmer than most
countries in the winter months, the
heat is not nearly so great during the
months of September and October,
at which period the out of door vine
is just ripening its fruit. This is the
chief reason why the finest grapes

are produced in England under cover, because by making an early spring by means of artificial heat, the gardener is able to ripen his grapes by the burning sun of our June, July, or August. It is therefore obvious that if we attempt to grow grapes in the open air, we must resort to every method which will have the effect of lengthening the summer, or of increasing the temperature to which they are exposed; and by due attention to these particulars many excellent crops of grapes have been gathered in our southern and middle counties.

POSITION.—The position most favourable for a vine is against a wall with a southern aspect. Speechly says that he found low walls from five to six feet high the best, as the plants grow stronger and afford larger grapes, because at this height they enjoy the reflected heat of the earth as well as that of the wall. But in most cottage gardens, and many others of greater pretensions, the vines are trained against the house, and when this is the case, widely projecting eaves are very favourable, for besides helping to shelter the plant from frost, they throw the wet clear of the foliage and fruit, which is of great importance, especially during and immediately after the period of blooming.

SOIL.—Thompson tells us, in his "Practical Treatise on the Grape-vine," that the soil used for open-air culture should not be so rich as that employed for it in greenhouses, but should consist of "three-fourths light sandy loam, the other fourth to be made up of old lime rubbish, brick-bats, and burned clay with a small proportion of broken bones. In this compost it will not make such strong canes as in a richer one, but they will ripen better, and have more prominent fruit-buds than the product of rich soil." Vines always thrive best in a soil which has a dry bottom; they may be made to grow luxuriantly and produce abundance of fruit in rich deep soils, but that which is produced on a gravelly, chalky, or schistous soil, although less in quantity, is invariably of a much finer flavour. In fact the soil and situation

can never be too dry for the vine, the finest grapes of the Continent being grown in arid situations, or where the sub-soil is dry. If planted even in a suitable compost, but when the soil beneath it is rich or wet, the roots will run down deep into it, the result generally being that the grapes will rot and seldom ripen. In Devonshire, where vines may be seen growing against the houses in almost every garden, it is a common practice with those who do not possess a gravelly sub-soil, to dig a pit under the wall where the vine is to be planted, and fill it in to within eighteen inches or two feet of the surface with brick-rubbish, stones, gravel, broken pottery, etc.; this management prevents the roots from running too deep, and is attended with the happiest results, as the fruit ripens almost every season, and is often in excellent condition for the table by the latter end of August.

PROTECTION.—If we wish the fruit of our vines to attain any degree of excellence it will be necessary to contrive some means for the protection of the buds from spring frosts, which if permitted to attack them, will at least keep them back very much, if they do not spoil them altogether. Various methods are resorted to, such as covering with oiled calico, old fishing nets, tiffany, etc., and every one must use that which happens to be the most convenient; the most ingenious contrivance, however, which is at present in existence is the invention of Mr. Maund, the author of the "Botanic Garden." He having observed that grapes grown on open walls in the Midland Counties are rarely well ripened, adopted the following plan to assist the process. He provides a small glazed frame, a sort of narrow hand-glass, and of the exact shape of the span-roof of a greenhouse; this is fixed against the wall, and incloses one branch of the vine with its foliage and fruit. "The open part which rests against the wall is thirteen inches wide, and may be of any length required to take in the fruit. The sides are formed of single panes of glass, seven inches wide, and meet on a bar, which may represent the ridge of a roof, the ends inclosed

by triangular boards, and having a notch to admit the branch. This is fixed on the branch a month before the vine is in flower, and brings it a week earlier than the exposed. The frame is not fitted closely to the wall, but in some places may be a quarter of an inch from it. The lateral branches being shortened before it is fixed, it does not require removal even for pruning, because I adopt the long rod mode of training, which is peculiarly adapted to my partial protection system. The temperature within the frame is always higher than without; sometimes at mid-day even from 20° to 30°. By this simple protection I find grapes may be ripened from three weeks to a month earlier than when wholly exposed, and this saving of time will, I believe, not only secure their ripening well every year in the Midland Counties, but also that such advantage will be available in the North of England, where grapes never ripen on the open walls." The roots may be protected during the clear, cold nights of spring and autumn, by fern, straw, or any other kind of dry litter, which should be spread pretty thickly over the border round the stem of the vine every evening before the sun goes off, and removed every morning when the sun is shining on it. By this means the great loss of heat from radiation is in a measure prevented, and great benefit accrues to the vine; if a wooden rake is used for the purpose, the operation will take but very few moments morning and evening.

PRUNING AND TRAINING.—Every gardener considers his own particular method of pruning and training the very best that can be adopted; but really good crops of grapes do not depend so much upon any particular system of pruning as upon the general management, soil, and climate. Having shown how to make the best of the latter, and given directions with respect to the former, there remains not much to be said on this head. There are two methods of pruning now generally adopted, each having its party of adherents and advocates; they are called respectively the spur system and the long rod

system; the old method of pruning the vine, which left it in the form of a peach-tree, is now everywhere discarded. The spur system is, perhaps, the best of them, and is easiest to carry out; it consists in cutting back the laterals close to the main shoot, so as only to leave the bud at the base of the lateral. A pair of pruning scissors is the best instrument for the operation, as persons when using the knife are apt to split the small length of wood left beyond the bud, which suffers in consequence; but this can be avoided by ordinary care. This pruning should be done at the fall of the leaf. If the laterals are cut back every year to one eye, in the course of years the spurs will become long and unsightly, but this can be easily remedied, by running up one rod every year, and as soon as it has got into bearing condition, cutting one of the old rods away. The young wood should be trained close to the wall, and nailed up regularly as it advances, so that it may have the benefit during the night of the heat absorbed by the sun in the day, for unless the wood gets thoroughly brown and ripe, there will be very little prospect of any fruit in the following season.

INSECTS.—The great enemy to the vine is the red spider. Prevention, however, is better than cure with this, as it is with all other calamities, and the diligent cultivator will take care to keep his vines in such a condition that this little pest will stand no chance of ever getting the mastery over him. Cleanliness is the magic spell which will always keep them away, and it would be well if folks would bear in mind more than they do that cleanliness is downright poison to every description of vermin, for they will rarely live, and never really thrive, on either animal or plant which is perfectly clean and healthy. If this fact occupied the prominent position it should do, many plants which are annually lost would be preserved; keep, therefore, your plants in vigorous growth, and keep them clean, and you will be rarely troubled with any pest. To keep away the red spider, then, and the mealy-bug from your vines, clean the wood well in the

spring just before the buds break; strip off all the old bark which the weather and winds have not already disposed of, and then dissolve two ounces of soft soap or Gishurst compound in two quarts of water; add to

it a good tea-spoonful of soot, and as much powdered sulphur as will make the whole as thick as cream, and then with a brush paint over every part of the vine with this composition.

BEDDING GERANIUMS.

SINCE my last notes on bedders, all the novelties planted out here have bloomed profusely, and have had the advantage of a magnificent season to show their best characters, and gain as good a repute as they deserve. In a cold wet season a good thing may make but a poor show, and we may need to be cautious how we condemn anything not as yet generally known. But in such a season as 1863 every one of our summer flowering plants has been seen at its best, and generally the long drought and the burning sunshine have been favourable to flowers. When last writing on this subject, I spoke of Helen Lindsay and Alexandra as the two new geraniums that were competing with Christine for a place in history. I have had them both under my eye every day since the beginning of June, and now I can pretty well judge what they are likely to do for the professors of the bedding system. *Helen Lindsay* is a more robust grower than Christine, blooms profusely, makes good trusses, has one tone more of the lovely rose colour of Christine upon it, makes less seeds, but is a retrogression in point of form, the two top petals being narrow and slightly set apart from the others, like a pair of ears pricked up to listen to criticism. The two plants of Helen I had of Messrs. Carter have furnished over fifty cuttings without cutting them so hard as to stop their blooming; in fact, they are now in pots, and after being so hard cut at while in the borders, have now recovered, and measure fifteen inches across, with half a dozen trusses open on each of them. So my first judgment is confirmed, and Helen will go into my list of desirable bedders until

some one will produce a geranium of the same habit and same colour, with broader top petals, and minus that little blotch of white which the top petals show at their base in Helen. Mr. Beaton can do this if he pleases, and having given us a stronger habit and a richer colour, it can be but the work of a year or two to remodel the form, and secure for us in lively rose colour what has been done already in salmon and scarlet. But what of *Alexandra*? It is a failure quite. Messrs. Henderson announced with much complacency that "it quietly passes by Beaton's Helen Lindsay," which is quite true, and as it passes Helen by, no one will beg it to stop, but will rather hasten its passing into a quiet oblivion. Not that Alexandra is a trashy geranium. It is, in fact, a tolerably good thing of its kind, but to be tolerably good is not sufficient for any geranium in the way of Christine, for this last is so good that whatever is put forth in competition with it must possess the very highest qualities, and these Alexandra does not possess, though it is a good geranium. The habit is not robust, but neither is it weak, it grows well and flowers freely. The blooms are as nearly as possible the same tint of rose as Christine, they are very symmetrical, they are very small, and almost every flower produces a rostrum, or say a spike of seed. I counted sixty seeds at one time on a plant which had flowered four trusses, and I said, "If that quietly passes Helen Lindsay, let it go. Horticulture will survive the loss of that geranium." But Messrs. Henderson made amends for this mistake, in sending out *Madame Rudersdorf*, one of the most lovely of all the horseshoes with

salmon-coloured flowers. To liken it to Kingsbury Pet or Beauty of Blackheath, would be to do it a great injustice, for it will not come into any group with them. It surpasses all of its race in neat habit and profusion of bloom, and is most unwilling to make seeds. The zone of the leaf is sharp and dark, and just the proper tone to show up the elegant flowers to perfection. These flowers are slightly cupped, of a bright salmon deepening to carmine at the base of the petals, and shading off to white at the edges. The trusses are large and compact, the footstalks firm, and the habit so good that it will be one of the most popular geraniums whether for pots or bedding. I have another charmer of this class, *Rosamond*, from Mr. Bull, which is really of the Kingsbury Pet strain, but passes by all such, not "quietly," but with immense applause from all who see how it eclipses all the established salmon coloured geraniums we possess. *Rosamond* is a robust grower, making stout wood, and large horseshoe leaves. The trusses are large and the pips very nearly of the same size and shape as that most perfect of all geraniums, Dr. Lindley. Every pip is as flat as a crown piece, and about the same size; the petals are broad, and overlap so that the indentations are scarcely perceptible, and the top petals are as large as the three inferior ones. The colour is bright salmon rose, veined with red, the edges whitish; it blooms freely, and should be found in every collection, however small, as if not wanted for beds, it is a gem for pot culture.

So much for the present about rose and salmon coloured geraniums. I must now tell you of another grand scarlet in the style of Dr. Lindley, but with shell-like petals, and hence with cupped pips. It is called *Alfred*, and was sent out by Mr. Bull this season. It proves to be one of the grandest scarlets known, huge trusses, the flowers very large, and finely formed, and the colour clear orange scarlet.

Such varieties as these will certainly displace a few of the old favourites, such as Tom Thumb, Crystal

Palace, Perpetual Queen, and others of flimsy character; but we must be cautious how we discard old friends, and be thoroughly satisfied that the new comers will do all we require of them. I purpose not to keep more than half a dozen of Tom Thumb or any of his race from this time forth; all my stock now in the ground will be left there to perish; but there will be a good stock of Attraction. Rigby's Queen, Reidii, Cottage Maid, Beauty of Brixton, and several others of the very best kinds, together with one that is better than all, but must for the present be nameless, to take Tom's place. I had last year from Banbury a scarlet called *Eclipse*, which was then new to me, and I suppose new to the world, though I know nothing of its history. It has this season proved itself worthy of the name, for it eclipses all the scarlets of the like of Tom Thumb, and will do for precisely the same kind of work, that is, for masses in beds, and ribbons averaging ten to twelve inches from the ground. This *Eclipse* has a small yellowish-green, nearly circular leaf, with no trace of a zone upon it. When passed through the fingers with the eyes closed a practised grower might mistake it for the Queen; but if compelled to reflect before deciding, he would notice that to the touch the leaf has more resemblance to velvet than that of the Queen, which feels woolly between the fingers. The peculiar firmness, yet soft feel of the leaf, would certainly strike a practised hand not previously acquainted with this geranium as one of its most distinctive features, and if allowed to see it after the trial by touch he would notice that the leaf is of a dull indescribable shade of green, whereas that of the Queen is remarkably fresh and lively. You will be enabled, through this clumsy description, to distinguish the real *Eclipse* when you meet with it, and I have been so far particular because I hope every one of our readers will seek it and obtain it to go with Attraction and Cottage Maid for next year's blaze of scarlet, as the three best of moderate growth until the nameless

one appears and puts them all *hors de combat*.

It is an easy transition enough from scarlet to crimson, but we must go once more among the Nosegays for the richest colours possible among bedding geraniums. My old plants of *Imperial Crimson* in 48-sized pots, the plants not at all pruned back last season, but simply shaken out and repotted in very sound and rather rich compost in April, have been a marvellous sight all the season. The gardeners would have begged cuttings of me till the very stumps and roots would have been chopped up, but I do not give cuttings, and so all they could do was to book it, and get it how and where they please. But I only told a few of those with whom I exchange notes confidentially, that in the clump of pot plants where *Imperial Crimson* made such a deep rich glow, that there were plants of *Merrimac*, *Spread Eagle*, and *Lord Palmerston* intermixed, and that they lighted up one another so that, at a moderate distance, you could not detect that more than one variety was used. But it amused me when I went over the Kensington Gardens with Mr. Eyles, to find that he had been doing something similar. *Lord Palmerston* was used there this season as last, and with remarkable effect, and at the head of each of the beds he had put clumps of *Stella Nosegay*, the intense scarlet flowers of which simply added to the imperial richness of his Lordship's state costume, and, what is more, blended with it, so that, in a general survey of the ground, the mixture was not discernible. As I have expressed my doubts of *Lord Palmerston's* wearing qualities, I must say here that this season it has proved itself in every sense the finest of all the Nosegays, and that should be praise enough, for the world does not now need to be told that for colour the Nosegay geraniums have no parallel among all the varieties of bedding plants, not even verbenas excepted.

It puzzles me that amateurs have to buy so much every spring, seeing how easy it is to get up and keep a stock of any of the bedding gera-

niums. It is very certain they do not follow the advice of the *FLORAL WORLD* to the letter, else, where there are bargains going on for hundreds and thousands of Tom Thumbs and such like common things, there would be money to spare to buy in a few of the novelties; for, after all, when a good display has been secured by the use of varieties well known, there is an immense amount of amusement to be had out of novelties, in flowering them, judging them, propagating, exchanging, and making comparative notes; and, even if a few disappointments happen, being able nevertheless to determine the exact point gained in the march of improvement and obtaining some insight into the probabilities of the future. Experience tells me that, where only moderate quantities of any one variety is required, it is best to pot all cuttings into thumbs in the first instance, using a good compost for the purpose, and placing the pots in a frame on a bed of cocoa-nut dust, and giving a little shade during mid-day hours. If large quantities are required, then the good old method of inserting the cuttings in the open border and in the full sun is unequalled for quickness and certainty, but it increases the work at the potting bench at a time when there is a terrible amount of potting to do; whereas by putting cuttings in pots at once, they may remain in those pots till spring if needful, or may have one shift to 60's to winter in, and a time of leisure may be chosen for the operation. Another advantage of the potting system is, that in the case of scarce kinds, one joint and its accompanying leaf suffices to make a plant, but when the cuttings are put in the border there must be something more substantial, three or four joints at least, or a little extra drought or sunshine may reduce them to dust. The way I root little mites of cuttings where there is positively nothing of stem to fix in the soil, is to take a short piece of stick or one of the thin chips that occur in cutting flower sticks; this I snap gently so as to bend it into the form of the letter V. If the delicate mite of a

cutting is now pressed gently into a pot filled with a sandy compost and the V is inverted over it, and the ends of the V thrust into the soil, the mite is fixed in its place by a slight grip, and the resemblance of the thing is to the letter A, where the cross mark may be the only leaf of the cutting prevented by the legs of the wedge from rocking either way. But in this propagating business do not forget the boxes described in the FLORAL WORLD of 1862, p. 34. They may be made in any quantity of boxes used for packing, and in fact of the waste of the household; and they are so much superior to pots that those who once take to them never retrace their steps.

Having flowered all the new verbenas of 1862 and 1863, I will add here that *Lord Leigh* beats *Fox-*

hunter, is the grandest scarlet out, and has a fine constitution. *Bright Eye* is one of the liveliest and prettiest and most profuse blooming verbenas known for bedding purposes, the colour clear lake with a sparkling white eye. *Riflemen* is a superb scarlety crimson, with bold lemon eye, small flowers, plenty of them, compact dwarf habit. The *Colonel* is another fine scarlet, with distinct lemon eye, the pip not well formed but the trusses compact, the habit of the plant dwarf, and requiring no pegs, and the most profuse bloomer of all the scarlets. I am now making up my notes on these and all such things for the next "Garden Oracle," and hope to have something to say about them also hereafter in these pages.

SHIRLEY HIBBERD.

MANETTIA CORDATA AND M. BICOLOR.

Most gardeners are acquainted with the lovely crimson nodding flowers of *Manettia cordata* or *grandiflora*, sufficiently beautiful, when well managed, to make it as fine an ornament to the stove as *Thunbergia aurantiaca* is to the greenhouse. The plant is produced from singular articulated tubers; each joint, on being separated, will form an independent plant; if these are divided early in February, and the pieces, after being potted, are plunged into a gentle bottom-heat, they will almost immediately commence growing. One of the strongest, or two or three of the smaller ones, may be selected to form specimens. A large shift suits them best, as from the fleshy nature of the roots they are liable to damage from frequent repotting. A No. 8-sized pot will be required if a large plant is desired. The wire frame on which it is to be trained should be formed of rather close work, and attention must be paid in the outset to the training, that the plant may be made to fill the bottom well before it is allowed to reach the top of the frame. A sunny situation in the stove, or intermediate house, is indispensable; not that the

plant requires a high temperature, but if placed in the shade it grows too luxuriantly to allow of its flowering well, producing a great quantity of stems and leaves, and but few blossoms. At the close of the season, say the middle or end of September, when the beauty of the plant is leaving it, let it be gradually dried off, and the roots may be stowed away for the winter on any dry shelf. *Manettia bicolor* is of still more robust habit, and it is necessary to begin early in the season with it, as the plant must be well grown before it will flower; and by this reason it usually attains a greater size than *cordata*. Its chief superiority consists in the very rich colour of its flowers, the bright yellow and crimson affording a beautiful contrast. Like the latter, mature plants should be dried, or allowed to sink into a state of rest for the winter; but those who did not obtain their plants till the commencement of summer will most likely have them now in full vigour. Such plants will be the better for all the encouragement they can have through the winter. They should be kept constantly growing, and will thus flower well

and early in the spring. They have hitherto been chiefly propagated by cuttings, which readily root under a hand-glass on a little heat. This, too, and for the same reason assigned for cordata, requires a light situation in the house, nor is there any material difference in the treatment of either, and

both will well repay the trouble bestowed on them. The soil I find to suit them best is soft open loam and peat with a good proportion of leaf-mould, using a good drainage and sufficient sand in the compost to keep the whole mass free and open for the roots to work in. J. GREEN.

THE GARDEN GUIDE FOR SEPTEMBER.

Now that the season is nearly over, it is well to make a review of plans, stock, and appliances, with a view to improvements and economy. While the foliage remains on the trees, errors in planting may be noted down for remedy, and the best places chosen for all shrubs and trees it is intended to plant this fall or next spring. The autumn hues, which increase and deepen as the flowers depart, give quite a peculiar interest and beauty to plantations and shrubberies, and in all arrangements in regard to planting, the autumnal effects of contrasted tints of foliage should be considered, and for the next two months, we have every opportunity of observing how much variety, and how many charming effects may be obtained by a judicious assortment and grouping of trees and shrubs. In regard to bedding-plants, the most accurate estimates may be formed as to the suitability of the kinds which have been used this season, for soil and climate, and local circumstances, as well, also, as to blendings and contrastings of colour, and the methods adopted in planting the beds. Where stock is wholly or partially raised at home, the gardener should now have a tolerably accurate idea of the varieties and quantities required for next season, that sufficient of each may be secured and no more; for to be burdened with twice or thrice as many geraniums, verbenas, etc., as are likely to be wanted, is as bad, or, perhaps, worse, than having too few. Whatever alterations are to be made in garden plans, too, should be definitely determined at once, so that the ground may be trenched up, and deciduous trees got into their quarters before the earth begins to cool, and walks, excavations, etc., made before unfavourable weather begins to interfere with such operations. Delay is a more frequent cause of failure in every department of gardening, than all others put together. Trees planted in spring, never do so well the next season, as those got in in autumn; rotation crops of all kinds, do better on ground that has been

ridged up betimes, and exposed to the autumn rains and winter frosts; for the deluging rains with which our winter usually commences, are as fertilizing as manure, and no time should be lost in trenching over all unoccupied plots, and getting the ground everywhere into order.

KITCHEN GARDEN.—The winter stock sown last month, will now be coming forward for planting out. Where onions have been cleared off, is generally the best place for cabbages for spring use, because the ground having been well-manured for the onions, is in good heart, and yet, so far relieved of manure by the onions, there will be no fear of a rank growth, such as will cause the plants to suffer from frost. Plant out, as spaces become vacant, first digging deep, and leaving the surface rough. The planting, however, must be firm, and damp weather should be chosen for it. It is too late now to sow any more winter greens or onions, and if the stock is short, it will be better to get a supply of plants, than waste time and patience in sowing. Thin winter spinach to six inches from plant to plant; thin the rows of lettuce that are to stand the winter: but not severely, because, in the event of severe frosts, the plants protect each other, if somewhat close together; on the same principle, broccoli and cauliflowers left to risk it in the open ground, should be not more than fifteen inches apart each, and the ground for them should not, at this season, be very rich, or they may suffer in severe weather. We generally plant the spring broccoli without manure, and in the spring, as soon as they commence their new growth, give them regular waterings with house sewage, and so secure fine heads; cabbages we treat the same, so as to avoid the necessity of manure in the autumn, which renders them tender in exposed situations. Earth up celery as the rows require it, in dry weather, but if not well grown, give plenty of liquid manure, and postpone the earthing-up till the plants have made good substance. This is the best time to form

new beds of horse-radish, the crowns to be planted fifteen inches deep, and six inches apart, in very rich and well trenched soil. Continue to sow saladings, and gather seeds as fast as they ripen. Potatoes to be taken up as the tops wither; carrots and beet-root may remain till the frost cuts off the foliage, and no longer, but parsnips may be left in the ground, trenched out as wanted for use, unless the ground is required, in which case, store them in sand.

FLOWER GARDEN.—Remove decayed flower-stems, and keep the borders clear of weeds, so as to prolong the season as much as possible. Plant out pinks and carnations, and rooted cuttings of herbaceous plants. The beds of seedlings must be looked over and thinned, and the thinnings planted in fresh plots of newly-dug, and firmly trodden ground. This month commences the season for planting bulbs. The first lot of hyacinths and tulips should at once be got into pots and plunged in coal-ashes, or coarse sand, so as to quite bury them, and keep them only moderately moist, and as much as possible free from the action of the atmosphere, so as to induce a root action before the foliage is produced. Hyacinths may also be planted in beds and borders, but tulips should not be put into the open ground till next month. A very effective way of using hyacinths is to put them in patches of seven, one in the middle and six round it, every separate patch to be of a different colour. Cuttings of bedding-plants may still be taken freely, but there should be no delay, or they may not be well rooted before cold weather sets in. This and next month are the best times for striking calceolarias. Take off the young shoots from near the bottom of the stool, and put them pretty close together in five-inch pots, well-drained, and filled up to near the rim with a mixture of peat, loam, and sand, equal parts, and half an inch of pure sand on the surface. China roses may also be struck now in pots in the greenhouse, and they do safest under hand-glasses. A second bloom, to last till Christmas, may be obtained from fuchsias, by cutting in the young wood, and giving the plants a little heat to start them afresh. Geraniums struck early in the summer, will now be coming into bloom, to keep the greenhouse gay all the winter.

GREENHOUSE.—It is most important to have the growth of all hard-wooded plants well ripened while there is plenty of sun-heat. If any subjects requiring to be repotted have been neglected, there must be no time lost to give them a shift to enable them to make new roots before winter sets in. A border under a south wall is a good

place for plants that require to be well roasted before being housed. Bedding plants should be got into small pots as fast as they make good roots in the borders, or can be spared from the decorative grounds, if worth keeping. Petunias, verbenas, and tropæolums come so readily from spring cuttings, and make as good plants as from autumn cuttings, that it is waste of glass to keep any large stock of cuttings through the winter. Keep the houses gay with balsams, cocks-combs, fuchsias, lilliums, gladioli, coleus, amaranthus bicolor, heliotropes, and plants with fine foliage. Wherever worm-casts are seen in pots, turn out the balls, and the worms can then be picked out with a stick. Sometimes a dose of manure-water will cause the worms to struggle up to the surface. Plants in conservatory borders, which are now past their best, to be taken up, and, if worth keeping, pot them, and place on bottom-heat for eight or ten days, as they will winter better if the pots are full of roots. Winter-flowering begonias to have a good shift in a compost of turfy loam and leaf-mould. Pot off a lot of bulbs at once for early bloom, and plunge them in coal ashes, and give very little water. Keep all houses open as much as will be safe; house tender subjects that are likely to suffer from wind and rain. Pot a few bulbs for early bloom. Ornithogalum, Ixia, and Sparaxis force well, and Narcissus bulbocodium will be useful if kept in ordinary greenhouse temperature for early bloom.

STOVE.—Plants in free growth must be moderately well ventilated, so as to induce a stocky habit, and prevent the formation of soft, sappy wood, which will probably not ripen well. Remove shading as much as will be safe, and place subjects that are going to rest in the coolest part of the house. See that all the winter-flowering plants are sufficiently potted, and any that are pot-bound and must not be checked by a shift, mulch with sheep's dung, or assist by means of liquid manure. Plants with ornamental foliage will be useful now that flowers are scarce. In giving water, take care to avoid a chill, and in every case see that the drainage is perfect, as there is time now to repair any small mischief before winter. As the month advances, let the heat of the house decline, and generally use as little fire-heat as possible, especially where the stock consists chiefly of plants that will be at rest all winter. Great care, however, must be taken that soft-leaved plants do not get affected with mildew. A few tropæolums struck now will be useful in the stove for winter blooms, and many ordinary garden

subjects may be turned to account for decoration by getting young plants forward, and giving them a liberal shift before taking them into the house. Amarylises should be looked over, and a few potted, and put in a tan-bed.

ORCHID HOUSE.—Orchids that have quite finished their growth for the season will require plenty of air during warm weather, to assist in ripening their pseudo-bulbs, and at the same time less water must be given. But, in such a season as this, the adventurous cultivator will sometimes encourage farther growth by using a high temperature and plenty of moisture, reckoning upon having time yet to put the plants to rest safely. Many of the *Vandas*, *Saccolabiums*, and *Dendrobiums* will submit to this sort of treatment very cheerfully, and where there are abundant evidences of an inclination to keep growing, it is not at all advisable to check it. Young plants generally are reluctant to cease their growing, and these must have plenty of moisture and continued shading. But those that are unmistakably settling down to rest should no longer be shaded, and there must be a decrease of temperature and of water supply. Established plants of *Cattleya*, *Lycaste*, *Odontoglossum*, and *Lælia* will, for the most part, require no more stimulus this season, but they must, nevertheless, have light but regular refreshings from the syringe. *Stanhopeas* must be looked to, that they do not go too dry, which is very likely to happen if they have not been put into new baskets this season.

Orchids that may be in Bloom in September.—*Aerides suavisimum*; *Angrecum caudatum*; *Barkeria melanocaulon*; *Lindleyana*; *Bletia campanulata*; *Bolbophyllum sallatorium*; *Brassavola acaulis*; *Cattleya bicolor*, *candida*, *granulosa*, *Harrisoniæ*, *Harrisoniæ violacea*, *Lodigesi marginata*, *pumila*, *violacea*; *Cypripedium Farrieanum*; *Dendrobium Gibsoni*, *Heyneanum*, *sanguinolentum*; *Dendrochilum glumaceum*; *Epidendrum phœnicium*, *vitellinum majus*; *Huntleya Waileiæ*; *Lælia elegans Dayii*, *furfuracea*, *Perini*; *Miltonia candida*, *Clowesii major*, *Morelli*, *Morelli atrorubens*, *Reynellii*; *Oncidium bicolor*, *crispum*; *Peristeria elata*, *guttata*; *Phalaenopsis amabilis*; *Promenæa Rollisonii*, *stapeloides*; *Stanhopea aurea*, *insignis*, *Martiana*, *oculata*, *tigrina*, *tigrina lutescens*; *Trichopilia picta*; *Vanda Batemanni*, *Lowii*.

PINERY.—Pines growing freely must have the aid of weak manure water, and a moist atmosphere, but the bottom-heat must be brisk if any stimulants are used.

Shading may be removed early this month. Guard against forcing small plants into fruit, and to prevent it keep the plants growing by frequently sprinkling the beds and paths of the house. Bottom-heat for pines &c., those ripening to be kept tolerably dry. Young stock to have air cautiously, which is best done when in dung beds by first applying a lining to keep up the heat, which will allow of giving a little air at night.

Chrysanthemums may have liquid manure freely now, and plenty of rain water alternately. Cuttings of pompones put in now, and rooted quickly on a gentle dung-heat, will make nice little plants to bloom at Christmas in the house. They must not be stopped at all, and have a rich soil to grow in. Short cuttings should be taken, so that there will be no necessity to use sticks to support them. Look over all large specimens whether in pots or borders, and tie out securely to make them safe against storms.

Strawberries to be forced should now be strong in pots; shift them to pots two sizes larger, using a rich firm soil, well rammed in, and after potting keep them close in frames for a week; then set them out on coal-ashes, and keep well watered.

Violets may be taken up from the borders, and potted in a mixture of rotten turf, rotted dung, charred rubbish, and road sand, equal parts, for early bloom. In taking them up do not break the root more than can be helped, and have good balls to each patch. Shallow pans of seven inches wide suit them better than pots. Put them in a frame, sprinkle and shade, and give very little air for a fortnight; then let them be exposed to all weathers till the end of October; after which give them frame culture.

Melons must have aid from bottom-heat, or the fruit will drop, and that now ripening will have no flavour. Keep the vines regular and thin, and shut up early.

Bulbs.—Offsets of tulips and hyacinths should be planted at once in rich sandy soil on raised beds. Plant in dry weather, put legible tallies to all the sorts, cover six inches deep, and keep the surface clear of weeds. No time should be lost in securing the stock of bulbs to be purchased this season, as the best are usually picked out first. In purchasing give the preference to hard bulbs, the largest are not always the best, but large bulbs are to be preferred if thoroughly ripe.

Animals, to bloom early next season, should be sown at once on hard ground, in a dry position; if elevated above the general level, all the better. The following

are the best leading sorts to sow now, to be transplanted in March, to bloom in clumps or masses, when the bloom will be much finer as well as earlier than from spring-sown seeds:—*Calliopsis*, *Clarkia*, *Collinsia*, *Convolvulus minor*, *Godetia*, *Escholtzia*, *Hibiscus*, *Iberis Kermesina*, *Jacoba*, *Larkspur*, *Lupinus*, *Nemophila*, *Nolana*, *Poppy* (dwarf French), *Schizanthus* (dwarf), *Silene rubella* and *armeria*, *Viscaria oculata*, *Venus's Looking-glass*.

Auriculas may be increased now from offsets; if rooted, all the better; if not rooted, put them round the sides of pots, and they will soon strike. *Auriculas* not yet rooted must be attended to without delay, to insure new roots before the temperature declines.

Azaleas and *Camellias* to be syringed frequently, but not so much watered at the root as during previous months.

Bulbs to be planted at once, in order to be well-rooted before winter, and the first batch of hyacinths for blooming under glass to be got into pots without a moment's delay.

Border Plants of questionable hardiness to be taken up at the end of the month and potted, or at least one or two of a kind to propagate from, and prevent entire loss. Choice *Pentstemons*, *Rudbeckias*, etc., are sometimes cleared off during winter. The potting of one of each will at least insure the saving of the variety.

Cinerarias ought now to be strong from rooted offsets, and some will want a shift. Use good compost, moderately sandy, and plenty of drainage.

Calceolarias should now be propagated

in quantities. A bed in a frame is preferable to pans and pots, as they can be lifted out for planting with good balls, and are not so likely to die off as those wintered in pots.

Carnations and *Picotees*, from layers, to be potted off as soon as well-rooted, and cuttings taken at once of all good seedling *Dianthus* in the borders. Where the propagation of carnations has been delayed, they may be increased by cuttings under bell-glasses, but when raised so late they must not be expected to bloom next season.

Celery to be earthed up only when it has grown to its full size. A fortnight is long enough to blanch it, and it grows but little after the earthing.

Roses may be budded on briars till the middle of October, but the earlier the better. Those entered in July have made good shoots, and should be looked over occasionally for the removal of wild buds below the work. *Roses* layered now, and left undisturbed till April next, will then be found well-rooted, and may be taken up and potted for bloom the following autumn.

Pelargoniums.—If the weather continues wet, house the plants a little earlier than usual, but with air left on night and day for the first week.

Hollyhocks to be propagated at once. The shoots that rise at the base of the flower-stem are to be put in as cuttings round the sides of pots.

Vines forced early will now be disposed to break. Let them have a temperature of 55° to 60°, not higher, till the leaves are developed. Shade the fruit that is to hang any length of time, and keep a sharp look out for vermin.

THE HOLLYHOCK.

Let us now offer to the reader a list of the best varieties from two separate points of view:—

I. THE BEST HOLLYHOCKS FOR EXHIBITION.

Beauty of Walden.—Flowers rosy carmine, colour bright and pleasing, of good shape, and closely set on a spike of moderate height.

Beauty of Waltham.—Flowers deep, rich, peach-blossom, colour full, distinct, and pleasing, petals of great substance and smoothness, closely set together, spike large and handsome. One of the best yet introduced.

Excelsior.—Fawn and salmon shaded, or rather intermixed, a large, bold, and well-shaped flower and spike.

George Keith.—Flowers rich crimson, very symmetrical.

Illuminator.—Scarlet carmine, with fine proportioned flowers, borne on a spike of moderate height.

In Memoriam.—Flowers crimson maroon, the richest and best of its colour.

Invincible.—Flowers rosy tinted salmon, large, smooth, and of exquisite form and habit.

Joshua Clarke.—Brilliant cherry-crimson colour, and shape good, the flowers well set on the spike.

Lord Loughborough.—Deep ruby-crimson petals of great substance and smoothness, one of the best.

Lady King.—Flowers bright ruby, very large, petals closely set, spike broad and handsome.

Lady Dueres.—Light rosy salmon, a full flower, and a compact spike.

Mrs. Chater.—Light pink and carmine, a smooth flower and a noble spike.

Mrs. M. Kenzie.—Flowers almost scarlet, close and compact, spike very fine.

Mrs. Cochrane.—Deep rosy crimson, form and spike first rate.

Miss Barrett.—Flowers rosy blush, of exquisite form, and well set on the spike. One of the best yet introduced.

Mr. Roake.—Pale primrose, at times almost white, exceedingly beautiful, both in colour and form. Quite first rate.

Plutarch.—Rich plum colour, quite distinct, and certainly the finest of this kind.

Princes.—Purple, very fine.

Prince Imperial.—Dark shining mulberry, new, distinct, and the best of its colour, though not equal to others of different colours.

Reine Blanche.—Pure white, occasionally a little rough, but, taken altogether, much the finest of the white hollyhocks.

Rosy Gem.—Soft rose, colour pleasing, spike fine.

Shartgrove Perfection.—Peach colour, rosy base, a close well-formed flower, and good spike.

Senator.—Deep crimson, good.

Stansteal Rival.—Rich salmon rose, very large, close, and smooth. One of the finest yet introduced.

II. THE BEST HOLLYHOCKS FOR GARDEN DECORATION.

Alderman.—Flowers almost scarlet, large smooth good outline, very showy.

Alice.—Primrose, flowers large, spike fine.

Annie.—Flowers white, chocolate base.

Beauty of Cheshunt.—Flowers light rosy red, very fine. (This, one of my earliest seedlings, maintains its position as one of the best for garden decoration.)

Beauty of Walden.—Described in List

No. I; also one of the best for effect in the garden.

Black Knight.—Flowers almost black, shining, and the best of the colour.

Brunette.—Crimson maroon, compact and good.

Empress.—Yellow, fawn, and apricot, smooth and good.

Harriet.—Deep mauve, distinct and pleasing.

Homer.—Light rosy red, close, good, and very showy.

Hon. Mrs. Ashley.—Lilac peach, fine spike.

Lady Middleton.—Rosy crimson, shaded with salmon, very showy.

Lord Jocelyn.—Bright cherry colour, large and good.

Mrs. Chater.—Described in List No. I, good also here.

Miss Nightingale.—Primrose, good.

Mennon.—Light crimson, one of the finest and most effective in the flower garden.

Pink Noisette.—Pink, fine spike, and very showy.

Purple Prince (Roake).—Large, purple, good colour, and splendid spike.

Queen of the Buffs.—Pale buff, smooth and good.

Queen of the Whites.—Clear white, a smooth flower, and beautiful spike, superior to *Reine Blanche* for garden decoration, but not equal to it for exhibition.

Rose Celestial.—Delicate rosy peach, exquisite colour, and fine showy spike.

Rose Gem.—Described in List No. I, good also here.

Shrubland Gem.—Fine clear yellow.

Senator.—Described in List No. I, good also here.

Volcano.—Fiery scarlet, very effective.

The varieties in this second list are equal to those in the first list for decoration, and can be bought at about one half the cost.

WILLIAM PAUL.

In the "Gardeners' Annual."

CULTURE OF THE HYACINTH.

IN GLASSES.—Choose solid and well-ripened bulbs; about the first or second week in October fill the glasses with rain-water, then place in the bulbs, so that the base just touches the water; place the glasses in a warm, dry, dark place, and when the roots are about three inches long, they may be brought to the light. As the foliage and trusses advance, give them all the light and air you can; when they are

brought to the light, the glasses should be filled with water to the base of the bulb; afterwards fresh water should be given whenever that in the glasses becomes stagnant; turn the glasses frequently, to prevent ill-shaped plants.

—BEDS OR BORDERS.—Hyacinths will bloom well in any light soil, but to grow them to perfection, a bed should be prepared for them; choose a situation that is

well drained, so that the water may readily pass away. In August the soil should be dug out to the depth of eighteen inches, then fill in with a compost of two parts friable turfy loam, one part decayed leaves, one part rotten cow-dung, with some river sand; all should be well mixed together two or three months before using, and frequently turned over, so that the whole may become sweet; in filling the bed, care should be taken to put in plenty, to allow for settling down, keeping the centre two inches higher than the sides; beds of four

or five feet are best; planting may then be proceeded with. Plant them in rows nine inches apart, and about three inches deep; a little silver or river sand should be placed beneath each bulb. They will require protection from frost by covering them with old tan or short litter, three inches thick, which should be taken away before the bulbs begin to push, when they may be protected by hoops and mats.—*B. S. WILLIAMS, Paradise Nursery, Holloway, N., "Catalogue of Bulbs."*

SEPTEMBER, 1863.—30 DAYS.

PHASES OF THE MOON.—Last Quarter, 5th, 1h. 9m. morn.; New, 13th, 4h. 42m. morn.; First Quarter, 20th, 1h. 33m. after.; Full, 27th, 6h. 2m. morn.

D M	Sun		Moon		Weather near London, 1862.						Rain.	THE COUNTRY. The Garden and the Field.						
	rises.	sets.	rises.	sets.	BAROMETER.		THERMOMETER.											
	h.	m.	h.	m.	Aft.	Morn.	Mx.	Min.	Mx.	Mn.	Me.							
1	5	13	6	47	7	58	9	52	30.01	...	29.85	69	...	50	...	59.5	.03	Small fleabane fl.
2	5	15	6	45	8	29	11	7	29.76	...	29.62	73	...	45	...	59.0	.21	Meadow saffron fl.
3	5	17	6	42	9	5	After.		29.64	...	29.58	66	...	33	...	49.5	.01	Barberries ripe.
4	5	18	6	40	9	47	1	14	29.75	...	29.71	71	...	36	...	53.5	.00	Peaches ripe.
5	5	20	6	38	10	36	2	8	29.79	...	29.72	72	...	42	...	57.0	.00	Hawthorn berries ripe.
6	5	21	6	36	11	30	2	55	29.99	...	29.91	67	...	45	...	56.0	.00	Marsh glasswort fl.
7	5	23	6	33	Morn.	3	33		29.99	...	29.97	76	...	39	...	57.5	.00	Common ragwort fl.
8	5	24	6	31	0	31	4	4	30.07	...	29.91	76	...	50	...	63.0	.00	Sunflower fl.
9	5	26	6	29	1	32	4	30	30.05	...	29.98	77	...	51	...	64.0	.22	Dog-rose leaves fl.
10	5	28	6	26	2	36	4	54	29.99	...	29.88	68	...	31	...	49.5	.01	Creeching water plantain fl.
11	5	29	6	24	3	42	5	15	30.07	...	29.95	72	...	35	...	53.5	.00	Sycamore leaves dirty brown.
12	5	31	6	22	4	49	5	35	30.13	...	29.80	72	...	52	...	62.0	.01	Jointed glasswort fl.
13	5	33	6	20	5	57	5	56	30.05	...	29.91	70	...	54	...	62.0	.00	Saffron crocus fl.
14	5	34	6	17	7	5	6	16	29.77	...	29.73	73	...	50	...	61.5	.00	Lime leaves turn yellow
15	5	36	6	15	8	15	6	40	30.04	...	29.93	75	...	50	...	62.5	.00	Horse chesnut leaves change.
16	5	37	6	13	9	28	7	7	30.19	...	30.16	71	...	41	...	56.0	.00	Acorns fall.
17	5	39	6	10	10	40	7	40	30.32	...	30.31	79	...	31	...	55.0	.00	Syringa leaves change.
18	5	40	6	8	11	49	8	21	30.36	...	30.26	71	...	41	...	56.0	.00	Nonesuch trefoil ripe.
19	5	42	6	6	After.	9	13		30.32	...	30.23	74	...	50	...	62.0	.00	Great burnet ripe.
20	5	44	6	3	1	51	10	15	30.22	...	30.13	72	...	55	...	63.5	.00	Wild honeysuckle fl. second time.
21	5	45	6	1	2	39	11	27	30.25	...	30.20	62	...	50	...	56.0	.00	Ash leaves lemon colr.
22	5	47	5	59	3	19	Morn.	30.19	...	30.10		60	...	31	...	45.5	.00	Ivy fl.
23	5	49	5	56	3	50	0	45	30.09	...	29.96	68	...	46	...	57.0	.00	Elm leaves turn orange.
24	5	50	5	54	4	19	2	6	29.92	...	29.79	63	...	51	...	57.0	.16	Cherry leaves turn red.
25	5	52	5	52	4	43	3	28	29.86	...	29.82	68	...	44	...	56.0	.06	Sharp-leaved mint fl.
26	5	53	5	50	5	7	4	48	29.86	...	29.83	70	...	52	...	61.0	.05	Bur marigold fl.
27	5	55	5	47	5	31	6	8	29.88	...	29.83	67	...	53	...	60.0	.00	
28	5	57	5	45	5	57	7	26	29.88	...	29.80	68	...	55	...	61.5	1.44	
29	5	58	5	43	6	27	8	43	29.78	...	29.67	69	...	53	...	61.0	.36	
30	6	0	5	40	7	2	9	54	29.81	...	29.77	73	...	37	...	55.0	.04	

PROBABLE WEATHER IN SEPTEMBER.—Fine till the 25th; then changeable; end of the month wet. Wind generally S.W. to N.W.

TO CORRESPONDENTS.

CATALOGUES RECEIVED.—"William Cutbush and Son, the Nurseries, Highgate. Descriptive Catalogue of Bulbous Roots imported from Haarlem, etc." This is an excellent list, got up with the greatest care, containing none but first-rate sorts. At the beginning of the pamphlet there are excellent directions for general culture and management, with plain instructions for selecting bulbs.—"Nutting and Sons, 60, Barbican, London. Wholesale Catalogue of Bulbous Roots." This catalogue is printed on a sheet, and contains a great number of varieties at reasonable rates.—"R. F. Darby, Seedsman, Cirencester. Catalogue of Bulbous Roots."—"J. D. and H. Christie, Nurserymen, Leatherhead. Catalogue of Bulbous Roots."—"Robert Porter, Seedsman and Florist, Market Cross, Oswestry, and at Whittington. Catalogue of Bulbous Roots."—"William Paul, Nurseries and Seed Warehouse, Waltham Cross, N. Select list of Hyacinths, Early Tulips, Gladioli, and other bulbs." An admirable catalogue, containing all the best bulbs in cultivation.—"E. G. Henderson and Son, Nurserymen to Her Majesty the Queen, Wellington Road, St. John's Wood. List of Bulbs and other Flower Roots." This is a closely-printed catalogue of 52 pages, which, besides containing an extensive assortment of the various kinds of bulbous roots, has some good practical remarks on the general management of bulbs, with general directions as to the arrangement of each species in beds, according to their colour, height, etc.

NEW GARDEN JOURNAL.—We have received the new number of the *West of England Horticultural Magazine*, which is a neatly got up monthly periodical of some pretensions to excellence, and has several original articles on the cultivation of florists' flowers, reports of flower-shows, calendar of operations, etc. The remarks upon the manner of exhibiting wild flowers at our local shows are worthy the serious attention of those who have the getting up of schedules, as there is certainly plenty of room for improvement in that particular. It bids fair to be a journal which will do its duty, and supply a want in that part of the country for which it is designed.

GRAPES CRACKING.—I have a vine in my house (Coe's Golden Drop) which bears abundantly every year, but for several years past many of the berries split asunder just as they are ripening. Can you suggest the cause and a remedy? No other vine in the house is similarly affected.—*A Subscriber*. [We do not know a grape so named, and therefore cannot say if the variety requires peculiar treatment. But it may be said generally that cracking is caused by some distress of the roots. Two or three heavy soakings of the border with strong tepid liquid manure while the berries are swelling, will probably prevent it; that is, if the border is all right as to materials and drainage. Cracked and mildewed berries abound everywhere this season, the result probably of the roots getting too dry when the plant is making great demands on them.]

PROTECTING EXPOSED FLOWER-POTS.—The article about protecting the outside of flower-pots with moss has been tried, and found most effectual. One pot placed within another has been exposed to the blazing sun, and the moisture of the inner pot has very successfully withstood the heat. Such exposure has been, of course, mostly for experiment sake.—*M. B. G.*

PROPAGATION OF ROSES.—*G. W. F. H.*—To strike hybrid perpetuals in the open ground is not a difficult though an uncertain method. The way to do it is to prepare a sheltered border with a dressing of leaf-mould and sharp sand, equal parts, and raise it a foot above the level. Tread this firm, and let it slope away to carry off water quickly. On the 1st of October take ripe cuttings and cut them in lengths of six inches, removing all the soft, sappy tops of the shoots. Take off as many leaves as will make three inches of the cuttings bare at the bottom, and cut the base of each by a clean cut close under the bottom joint. Now put these in the ground, three inches deep, in rows a foot apart, and the cuttings four inches apart in the rows, and tread them firm. If the weather is bright and dry sprinkle them with water every morning, and keep shaded, but do not water the bed, as if only moderately damp that will suffice. As there is generally a copious deposit of dew at night, the cuttings will pro-

bably want but little water, and should only have enough to keep them fresh. Many of them will root, and in March begin to grow; many will rot during the winter. If a hard winter follows they may be saved by covering with frames or canvas. Where frames are at hand, and a gentle hot-bed can be made up, the same method of making the cuttings may be adopted, but the bed should consist of equal parts loam, leaf-mould, and sharp sand, and be six inches deep over the fermenting material. They must be kept in the frames all the winter, and have air during fine weather. In cocoa-nut waste roses root quickly, but as soon as possible should be potted off, and put in the greenhouse or a pit, and the stuff for the first potting should have a considerable proportion of leaf-mould and sand in it. The plan you propose will answer very well if the soil is thoroughly drained; the reason we advise raising the bed is to secure the cuttings a dry position all winter.

NEW GARDEN.—*W. B. W.*—To furnish you with a plan in these pages is simply impossible. It might occupy hours, perhaps days, and unless we visited the ground, and made measurements in our own way, the plan would be a mere fancy. We undertake to advise on laying out and improving gardens, but we have never used these pages to further our own interests; we despise the system of converting a periodical into a shop. We can now give you these general hints. Get all earth-work done as speedily as possible, so as to plant this present autumn. On the upper part of the ground pipes of two-inch bore will do, and the trenches had best be filled a foot deep over the pipes with chalk. The cross drains at B, and all the drains in the lower levels had best be four inches diameter, and the outlet drain to carry the water to the ditch six inches. The hill, marked H, appears to us to interrupt the view. If so remove it, and use the stuff for raising the ground marked out for fruit, which appears to be very low; some of it will come in for the lawn, which, being large, had best be in gentle undulations towards the sides, but a dead level across from the house towards B, C, where you mark the view, to be good. If you can push the work on to begin planting at the end of this month, get in all the evergreens first, and by the time they are planted you may proceed with the trees. Without seeing the soil we cannot speak positively about American plants, but gene-

rally an old turf on a yellow loam will make a first-rate staple for rhododendrons if stripped off in a thin slice with the pick. Every scrap of turf should be saved for some purpose; that which is not wanted for American beds should be stacked up for potting. The clay taken out in making the walks will do for the walks again if burnt, and the best fuel to burn it with is small coal; one ton will burn fifteen yards of clay. "Profitable Gardening" contains some practical suggestions on the formation and improvement of gardens, and in the "Town Garden" the same subject is treated in respect to ornamental features. By the way, the "Town Garden" is as well adapted to the wants of country gardeners as those in London, so far as concerns its cultural directions and advices on earth-work, etc.

ROSE FENCE.—*Constant Subscriber.*—Brutus, now called Brennus, would not answer at all for your rose fence "to be in flower and perfect immediately." You had best have common China, of at least three years old, and plant them in November next; on your rocky soil that would do better than any hybrid perpetual; otherwise Jules Margottin or Charles Duval would be grander, and of rapid growth. In reply to 3, we recommend you to get up a stock of the little blue heartsease; it makes a charming ribbon line; many of the self and coloured pansies to be obtained at the nurseries make nice ribbons, and any lady gardener could manage them. The pea you saw at Alexandria is Lord Anson's pea. The Iris, found at Memphis, may be Xiphium, or one of its varieties, but we cannot determine certainly from your description. The Cistus found on Anti-Lebanon was albidus. All these plants are procurable at English nurseries.

PLANTING OUT BEDDERS.—Will you inform me how far apart bedding geraniums should be planted; also verbenas, petunias, supposing quantity of plants to be unlimited, etc.; also, how petunias answer as bedders, and whether the single or double varieties flower most freely; also the names of a few of the most suitable, and the name of the best horse-shoe geranium.—*A., Sheffield.* [We might reasonably make an article on these questions, but we will endeavour to reply briefly. In the first place, then, no general rule can be given for the distances of bedders: even the masters of the art occasionally make mistakes. As, for example, at Victoria

Park, where the bedding is generally superb, this season there is a ribbon with centre row of verbena Purple King, and variegated alyssum on each side of it, and the verbena is not solid even now, through being planted too thin. The reason why no general rules can be given is because in different soils, and in wet and dry seasons, the same varieties grow differently: again, in the same soil, and the same season, different varieties grow differently. While this question was before us we went into the garden, and measured one of our average plants of Tom Thumb, and the measurement is twenty inches across; hence to have Tom Thumb solid by September, it should be about twenty inches apart every way. But we have Queen geraniums nearly three feet across, and verbenas of which a single plant covers a square yard. Generally, verbenas and petunias of average habit should be fifteen inches apart, and dwarf geraniums eighteen inches, but if put out late and small, and in a poor soil, they should be considerably closer. Of geraniums the best bedders are Attraction, Eclispa, Queen, and Cottage Maid, the last-named is at present the best of the horse-shoes, but a still better will be published next spring. Of verbenas Lord Leigh is the best scarlet, Snowflake the best white, Purple King the best purple. Of petunias Magnum Bonum has no equal as a bedder, next to that Shrubland Rose, and the Queen. Double petunias are generally not good bedders, though, when grown in pots, they bloom more finely in the open air than under glass; we use Eliza Matthew, one of the noblest double petunias, as a bedder, and this season it has been grand; but in such a season as 1860 no petunia of any kind is worth the ground it occupies.

TRIPLODUMS.—*R. A. W.*—The dwarf nasturtiums are capital bedders, but they are coarse, and best adapted for public gardens where the patterns are worked out on a large scale. The proper way to do them is to sow the seed in April in boxes; then pot them and let them show bloom, and then sort them out and plant in masses only those that come true. If planted out before they show bloom, those that come false spoil the affair. We grew this season all the varieties sent out by the dealers, and, with the exception of Pearl, described as silvery white, and in reality a miserable flower of a pale straw, they were all remarkably good, the dark crimson and Crystal Palace Gem particularly so.

They are the cheapest of all the showy bedders known, and invaluable to people who are not blessed with unlimited fortunes.

VARIEGATED PLANTS.—*Simcoe.*—We can quite understand your case, for in our strong loamy soil very few variegated plants keep true for any length of time, and the only way we can keep them is to prepare the places they are planted in by taking out the soil and introducing mixtures of chalk, worn-out peat, and the siftings of the sweepings of gravel-walks. In such mixtures, such lovely things as the variegated rue, strawberry, epilobium, etc., keep as true as in pots. If you are fond of such things, keep duplicates of all your plants in pots.

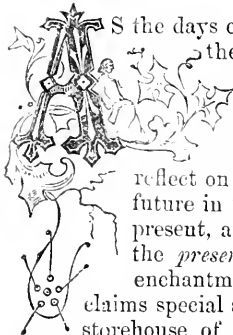
VARIOUS.—*M. B. G.*—*Lastrea rigida.*—*A. A. M.*—1, *Cystopteris fragilis angustata*, and the best form of it; 2, *C. f. dentata*; 3, *C. f. angustata* in another form, the pinnules very regularly incised; 4, *C. f.*, the species in its normal condition. On a good south wall sempervirens rose *Grevillea* will be a fine thing, if you like to wait some years for it to grow to a size for effect and bloom. You do not say what height you wish to carry it; if not more than twelve or fifteen feet, *H. P. Jules Margottin* will be grand if planted in a deep rich loamy border. Otherwise, choose *Felicite Perpetuelle* or common *Boursault*. The following English ferns of evergreen habit are suitable for a Wardian case:—*Scolopendium* in variety, *Polystichum aculeatum*, *lobatum* and *angulare*, *Asplenium marinum*, *A. adiantum nigrum*, *A. viride*, *A. trichomanes*, *Adiantum capillus-veneris*. The last named may be kept pretty close; the others will require moderate ventilation.—*W. S. B.*—The common and the tree *mignonette* are one and the same thing, *Reseda odorata*; it is cultivation alone that makes the difference. You allowed your melons to set too many fruit; you should have been content with half a dozen on each plant.—*W. M.*—We should certainly object to showing *Selaginella Wildenowii* as a fern; in the first place because it is not a fern, and secondly because in all well arranged schedules which include fine foliage plants there are classes for *Lycopodiums*.—*P. M. B.*—Most of the ornamental gourds are eatable, and, when any doubt exists, it may be settled by tasting a slice, for the unwholesome kinds are invariably bitter. In most of the seedsmen's catalogues particulars are given as to the uses of the various kinds.

THE
FLORAL WORLD

AND
GARDEN GUIDE.

OCTOBER, 1863.

CULTURE OF CYCLAMEN.



AS the days contract and the sunshine falls more slantingly, and the mornings become misty, and the nights grow cold, we perceive, more clearly than at any other period of the year, how complete is the succession of labours and pleasures connected with a garden. It is in the autumn that we are best fitted to reflect on the relationships of the past, the present, and the future in the mind, for it is in the mind alone that the past, present, and future become entities. During the summer, the *present* almost wholly absorbs us, and we yield to the enchantments of the sensuous. During winter the *past* claims special sympathy, and we find new life and thought in the storehouse of memory. When spring has fairly opened, hope tells her flattering tale. The shadows are shortening, and amid many joys and some few miseries peculiar to the time, we live for the *future*, and our thoughts are chiefly of the coming summer, and the signs of its swift approach that already appear.

Now, as the trees let fall their fiery leaves, and the rain occasionally lashes the pane and swells the water-courses, memory is full of the pictures of summer, anticipation is awakened for the greetings and meetings of Christmas; the out-door world is still enjoyable, for the blackberries are in their prime, the woods are in their richest colours, and for days together, when the sun shines brightly, summer seems still to linger with us. Yet we are constantly turning from remembrances of pleasure, and from pleasures that continue, to cast our thoughts forward through the night of the winter to the morning of the new spring, and by the flowers that linger yet, taking comfort that spring will bring us plenty. So in autumn, of all other seasons, the mind is best prepared to compare the values of its several sensations as resulting from the contemplation of the past, the present, and the future. Nature is ready to assist in this combination, for she gives us now glimpses of all the months. We have glimmerings of fresh green beside auburn leaves and leafless boughs, and the skies favour us with sunshine, wind, rain, warmth, frost, and all the varieties of weather that mark successively the round of the year.

The gardener's work is strictly in harmony with the mood of the

thoughtful mind at this season. He is housing his tender plants for the winter. He is resorting to various shifts to keep garden and greenhouse as gay as possible, and he is procuring, potting, planting, etc., all sorts of bulbs, corms, tubers, and roots for a grand exhibition of spring flowers. Whosoever is not doing this, must submit to be told that they have scarcely yet begun gardening. There may be always said so much as this for spring flowers, that by universal consent they are the most precious of all that the year produces, and if they are to be weighed in the balance against summer bedders, will cause the last to kick the beam in respect of every possible feature of intellectual interest, sentiment, and individual beauty. We select from the lovely *Erythroniums*, *Primulas*, *Doronicums*, and the rest of the spring flowers, one which might claim pre-eminence for beauty if it did not happen also to be one of the most modest, and shall endeavour to carry the thoughts of our readers forward by proposing the more extensive cultivation of the *Cyclamen* as a task admirably adapted to the range of practice and means of the majority of amateur cultivators, and as one of the best of all plants known for the entertainment of lady gardeners. If the enthusiasm for bedding plants would only leave its victims an hour of leisure, and a spare corner of the brain for a thought about spring flowers, we should see as many cyclamens as geraniums in all private gardens, the hardy kinds showing their bloom in the borders in the first flush of the spring, and the tender kinds filling stages and shelves in the greenhouse, and giving a *coup de grace* to the dinner-table and drawing-room window; for a few flowering cyclamens beside one during a deluge in February or a howling March wind, enable us to antedate the summer when it is yet very far off, and experience some of the warmth and fragraney already in our plants. What a matchless grace is there in the cyclamen, its deep green shining leaves like a cluster of fairy shields, its delicately-tinted and deliciously odorous flowers elegantly poised on their slender stems, like banners and beacons for Puck and his playmates, the wonder is that it has not some such place in story and song as the violet, the rose, and the primula; and indeed it would have had a first place, had Nature but have sprinkled its blossoms on our plains as she has sprinkled them among the slopes of the Alps and Pyrenees, and among the woods and wastes of Georgia and Cyprus. Indeed, we can almost claim *Cyclamen hederæfolium*, the Ivy-leaved Sowbread, as a native, for it is said to be found growing wild in some Welsh localities, and in Deakin's "Florigraphia," habitats are assigned it at Bramfield, Suffolk; Sandhurst Green, and Goudhurst, Kent. Dr. Deakin says of this species:—"It is frequent in the woods and shady places in various parts of Italy; and so profuse in some districts about Pisa, as to give the surface of the ground an apparent clothing, at a distance, of a delicate pink tissue."

SPECIES OF CYCLAMEN.—The *Cyclamen* takes its name from the Greek *κυκλος*, "a circle," probably from the circles formed by the spiral peduncles. In the natural system, it is classed with the *Primulaceæ*, and is only distinguished from the true primulas by its peculiar outlines and the coiling of the peduncle, its formation being precisely the same, the stamens being attached to the lobes of the corolla, instead of being alternate to them, as in most other plants, and the capsule being only one-celled. The species may be classed as hardy and tender. The hardy kinds are *C. coum*, *C. Europæum*, *C. hederæfolium*, *C. ibericum*, *C. latifolium*, *C.*

linearifolium, *C. littorale*, *C. Neapolitanum*, and *C. vernum*. The tender species are *C. Persicum* and *C. repandum*.

CULTURE OF HARDY CYCLAMEN.—It would be a folly to deal with hardy cyclamens as we deal with most other hardy spring flowers, because if exposed to all the rigours of the early season at which they bloom, nothing but disappointment is to be expected. Hardy cyclamens must not be committed to a common garden border in the same way as we plant tufts of daisy and arabis, and, except in warm localities, where the soil is peaty, the border must be specially prepared for them. Those who grow *Ixias*, *Sparaxis*, and other of the nearly hardy Cape bulbs, out of doors, are in just the proper position to do justice to hardy cyclamens. A border facing south, sheltered with a back wall or greenhouse, or enjoying some of the surplus warmth from a stove or furnace, and consisting chiefly of peat and leaf-mould, on a warm and well-drained sub-soil, is the place for Cyclamens, *Tritonias*, *Ixias*, the hardy *Amaryllises*, *Alstræmerias*, and myriads of the choicest flowering plants known, which need not so much the help of artificial heat as moderate protection against the scathing blasts and perishing sleet of our springs. In such a border in some parts of the south-western counties, *all* the species of cyclamen could be grown, but anywhere the so-called hardy kinds might be cultivated with the certainty of success. We can promise to any of our readers who will, during this present October, make up a border for plants of the kind just named, an amount of enjoyment far surpassing all that they have ever derived from the pursuit of gardening according to the established routine of making a grand summer display, and devoting every possible energy to the development of the bedding system. But as we cannot now pursue this subject, we will just state that, if the position is well drained and sheltered, all that hardy cyclamens require is a mixture of turfy peat, leaf-mould, and silky yellow loam, equal parts. This must be a foot to eighteen inches deep, and when the bulbs are planted, the bed should be covered with two inches of dung, rotted to powder. The season for planting is October, and every succeeding October the bulbs should be taken up and replanted, otherwise the flowers get fewer and poorer every year. In planting, use silver-sand in contact with the bulb, and press the bulbs of *C. coum* an inch below the surface. The others press in slightly, in the way in which onions are planted. The bed should be covered during winter with four inches of tanner's bark, as a protection against frost.

CULTURE OF GREENHOUSE CYCLAMENS.—The usual method of culture is to pot the bulbs in autumn in successional batches, so as to insure a successional and long-continued bloom. The same soil as recommended for border culture answers for plants in pots, if a fifth part of silver-sand is added to the bulk. The first potting of strong bulbs should be in small pots. When this is accomplished, place the pots containing the bulbs in a frame, and give them very little water. As soon as they begin to grow freely, increase the supply of water, but always be moderate with it, and as soon as the pots are full of roots shift to the next size, and use plenty of drainage. We find that we can grow very handsome specimens in 54-sized pots, but large old bulbs will readily fill 48 or 32-size. Whether in greenhouse or frame, the plants must have air as often as possible, but be kept quite secure from frost, and as soon as they show for bloom let them have plenty of water. As soon as the bloom is over, set them out of

doors in a sheltered and somewhat shady place, and give water moderately, keeping them almost dry for three or four weeks, yet not so dry as to hasten the decay of the leaves. We have used them in groups for the margins of beds for the sake of their richly-tinted and elegantly-formed leaves, during the early part of the summer, and very effective they have proved themselves as a relief to masses of rich colour. Gather the seed when ripe, and as soon as the leaves begin to decay give no more water. When the leaves have entirely withered, store away in a dry place the pots containing the bulbs, and so let them remain in the pots until required again for potting. Sometimes there is a little tendency in the bulbs to form new leaves, and continue growing very late in the season. This is usually the result of having too much water, as may happen in a wet season through the plants being always out in the rain. We cure this by a very simple method; we place the plants on the top shelf of a greenhouse, and there keep them tolerably dry, and so secure perfect ripening of the bulbs.

SEEDLING CYCLAMENS.—As with most other plants there are two ways of raising stock, namely, by seeds and cuttings. But we cannot devote a paragraph to the propagation by cuttings, because the method is too difficult for the majority of amateurs to attempt, and too precarious to be likely ever to pay the expertest of practitioners. Nevertheless, we must ever keep in mind that division of the corm or bulb is a *possible* method of propagating, because should there ever be discovered a means of making that method more certain, the varieties could be more certainly perpetuated, and it might be possible to distribute those few varieties with variegated leaves which are, and have long been, in the sole possession of some half dozen cultivators. The sowing of seeds is the only method available for ordinary purposes, and to raise plants in this way is a very simple affair. Some time in February fill some large pans with peat and peatdust, press it firm and water with boiling water, and put aside to drain. The next day strew over the surface about an inch depth of the dust of peat and silver-sand mixed together, equal quantities of each. Sow the seed thinly on this surface, and cover with the same mixture of peat and sand, about a quarter of an inch deep. Place these pans in a frame and shut them close. Look at them occasionally, and if they get dry moisten them by gently dipping in a vessel of water, which will not displace the seed, whereas the use of a watering pot might wash it out. In the course of time the seedlings will appear, and will grow mightily if kept freely aired and moderately moist. About the middle of May place them all, except the seedlings of *Persicum*, out of doors in a shady place, and all the attention they will require will be to keep them free from weeds, and to give water occasionally. By the next October they will have formed nice little bulbs. Do not shift them, but let them remain in the pans, in frame or greenhouse, till March or April, when they will be a year old. Take them out carefully, and pot separately in thumb-pots, using the same soil as recommended before for potting, and filling in next the bulbs with the sandy mixture advised for covering the seed. Place these pots on a gentle dung-heat, and give the roots a fresh start, and as soon as the pots are full of roots, shift to 60-sized; keep them in the frames, give air and water moderately, and in the course of June prepare them for resting by withholding water, and when the leaves are dead store away in the pots as before described. In the October following repot them, and they

will flower the next winter or spring. There is a much quicker method of raising a stock of flowering bulbs of *C. Persicum*, and that is to sow the seed as soon as ripe, and to keep the plants growing all the winter in the stove, by which process they form fine large bulbs by May of the following year, when they may be dried off and ripened, and will all flower the next spring. As to the selection of species and varieties, it is so true that all are beautiful, that we advise the lovers of these plants to secure as many species and varieties as possible. The most useful species are *Persicum*, *coum*, *hederæfolium*, and *Europæum*. Of *Persicum* there are many varieties, some very fragrant, others but slightly so, and for colours, the most distinct are *albiflorum*, white; *lilaceum*, lilac and white; and *odoratum*, red and white.

NOTES ON NEW PLANTS.

CLERODENDRON THOMSONÆ.—In the third volume of the *FLORAL WORLD*, p. 130, we gave an account of the interesting *Clerodendron cruentum*, which was then but lately introduced into this country by Messrs. Veitch, of Chelsea and Exeter. We have now to introduce to our readers' notice another very beautiful species, to which the name of Thomsonæ has been given. It was discovered by Mr. Barter, a botanist, and some dried specimens were preserved in the Herbarium at Kew; but it was subsequently discovered growing in abundance on the borders of Old Calabar, by Mr. Thomson, who had the good fortune to introduce living specimens into Europe. It was first bloomed in the Botanical Garden of Edinburgh, in 1862, in a stove, where it made a superb effect by means of its numerous bundles of lively flowers, the calyces being as white as snow, and the corollas a bright crimson. It will either twine its long arms round another plant, or grow recumbent upon the ground. It requires shade in a warm greenhouse, where it will grow to a considerable height, but looks best trained in the form of a pyramid. The soil should be rich

and friable; it requires frequent syringing both above and below the leaves, to keep it free from parasitical insect enemies; and may be easily increased by cuttings.



CLERODENDRON THOMSONÆ.

VIOLA ARBOREA BRANDYANA.—The genus *Viola* has for its type *Viola odorata*, which is found abundantly throughout Europe, advancing even very far northward, and spreading itself in shady places where it is a

little damp, in forests, woods, beneath hedges, etc. It is one of the first plants which by its flowers gives notice of the approach of spring, and it frequently flowers again during the autumn. It has for sisters about fifty-five species, which are generally found in the temperate parts of the two hemispheres, and a very few in the tropical and sub-tropical regions of Africa, Oriental Asia, and the islands of the Indian and Australian Archipelagos. It is one of the most na-

Brunean, with flowers full and equally streaked; but in the latter it is only the interior petals which are striped. It must be grown in light dry soil, and every runner and lateral shoot carefully picked off, unless wanted for multiplication.

SERISSA FETIDA var. *FOLIIS AUREO-MARGINATIS*.—Kraempfer is the real discoverer of this plant, he having met with it in his travels in Japan, during 1690—92. He is the first author who mentions it, but we do not know who first introduced it into Europe. It is certain that it was at one time cultivated in the gardens of Cels, at Paris, for Aiton, in his "Hortus Kewensis," says it was introduced in 1787 under the name of *Lycium Japonicum*. This fact is confirmed by Curtis, who mentions it in a note. But even before this period it was cultivated in Paris in the Jardin des Plantes, under the name of *Spermacoce fruticosa*, or of *Lysium foetidum*, as indicated by Jussieu. But although it has had so many names bestowed upon it, the one which it now rejoices in does not appear to be very appropriate, for although several authors have declared it to have a fœtid smell, M. Chas. Lemaire, the editor of "L'Illustration Horticole," declares that after having examined several cultivated specimens, he was unable to detect it. The variety, *foliis aurea-marginatis*, is a small



VIOLA ARBOREA, var. *BRANDYANA*.

tural genera of the system, and every one recognizes the species at a glance, even those the most diverse. All are herbaceous, annual or perennial, but very rarely shrubby. The one we at present introduce to the reader has nothing in common with the *Viola arborea*, and *arborescens* of botanists; and its arborescent state depends upon the means employed in its culture; that is to say, in suppressing carefully all the *stolons* or runners, and leaving only the centre one. This variety very much resembles the *Violette*

bush of very elegant habit, its pretty little leaves margined with gold, while its flowers are of a pure white, and are produced two and two on the extremities of all the ramifications. It is a great acquisition and very decorative. It requires only ordinary greenhouse treatment.

ALOCASIA LOWII.—This was discovered by Mr Hugh Low, in Borneo, and sent by him to the Clapton Nursery, under the name of *Caladium Lowii*. It flowered in a stove during the month of January last, and was

then discovered to be an *Alocasia*. It is one of the most desirable of the recent acquisitions, and has made a great sensation in the botanical world. Since the appearance of *Alocasia metallica*, there has been nothing introduced with such strikingly beautiful foliage. The leaves are of a fine bronze green on the upper surface, and of a deep rich crimson purple beneath, while the ribs are of a pure ivory white, rendering the plant a most conspicuous and beautiful object, so that it will become an essential in every collection of stove plants. It requires no particular care, as the ordinary treatment of *Caladiums* will suit it.

COCOLABA PLATYCLADA.—One of the most remarkable of recent introductions. It was discovered by Mr. Milne, during Captain Denham's voyage of H. M. S. "Herald" at Wanderer Bay, Solomon's Islands. We cannot but regard it as one of the most interesting and valuable additions to our gardens, and one which will speedily become a great favourite. Throughout the year it is covered with innumerable blossoms, which are generally interspersed with bright red, and finally dark purple berries, so that, by always having either flowers or fruit upon it, it reminds us forcibly of the orange tree, although it by no means resembles it in appearance. It is of easy culture, and may be easily increased by cuttings.

DELPHINIUM ALOPECUROIDES.—A double Larkspur, and a desirable addition to our garden beauties. It was raised by Mr. Wheeler, of Warminster, and is quite hardy, bearing our most severe winters with impa-

nity. The principal part of the spike is close and brush-like. It will grow in any ordinary garden soil, but it never produces seed; and must, therefore, be propagated by division.

HEBECLINIUM MACROPHYLLUM.—This plant is said to be much used for out-of-door decoration on the Continent, but it has not yet been ascer-



SERISSA FETIDA, var. *FOLIIS AUREO-MARGINATIS*.

tained whether it can be applied to similar purposes in this country. If it proves hardy enough for a "bedder" it will be found a great acquisition, as it is remarkable for its gigantic cordate green leaves, and its large corymbs of reddish-lilac *Ageratum*-like flower-heads. It is a native of Mexico, and was first exhibited in this country by Messrs. A. Henderson and Co.

FLOWER SHOWS OF SEPTEMBER.

CRYSTAL PALACE, SEPTEMBER 1st and 2nd.—This was an excellent show in every respect, and attracted a vast number of visitors. The tables con-

taining the cut flowers and fruit were arranged along the centre of the nave, and extended nearly the whole length of the building. The fruit was in

the greatest abundance and perfection, the judges declaring it to be the finest show of fruit ever seen in the Crystal Palace. There were several bunches of grapes, both of black and white varieties, weighing upwards of five pounds each, plenty of peaches which weighed half-a-pound, fine figs just ripened to the bursting point, excellent pines, melons, nectarines, apricots, cherries, etc.; the latter especially being in good condition.

Dahlias were not quite so numerous as usual, but were very fine. The nurserymen's flowers were larger and better than those shown by amateurs; Mr. Charles Turner, of Slough, earning the principal honours with admirable collections of flowers; his stand of 48 were all of them fine blooms, a very even lot, several being absolutely perfection. The varieties were:—Charlotte Dorling, Lord Derby, Mrs. Henshaw, Andrew Dodds, Norfolk Hero, Earl Shaftesbury, Mrs. W. Pigott, George Elliott, Peri, Sidney Herbert, Mirfield Beauty, Mr. Stocken, Criterion, Hugh Miller, Donald Beaton, Madge Wildfire, Midnight, Count Cavour, Beauty of Hilperton, Mrs. Trotter, Bob Ridley, Umpire, Lord Cardigan, Dinorah, Lord Dundreary, Delicata, Tiger, Cygnet, Una, Seedling, Lord Eversley, Seedling No. 1, Etonia, Caractacus, British Triumph, Model, Volunteer, Mrs. Pressley, Juno, Chieftain, Grand Master, Mrs. H. Vyse, Triomphe de Pecq, Seedling Gen. Jackson, Mauve Queen, Lord Palmerston, and Lady Popham; second, Mr. J. Keynes, Salisbury; third, Mr. J. Cattell, Westerham; fourth, Mr. J. Walker, Thame, Oxfordshire. In the class for 24 Mr. Turner was again first, and Mr. Keynes second; third, Messrs. Saltmarsh and Son, Chelmsford; fourth, Mr. J. Walker; fifth, Mr. H. Legge, Edmonton; sixth, Mr. Thos. Barnes, Stowmarket. Mr. Turner was first for 12 fancies with Pluto, Queen Mab, Harlequin, Lady Paxton, Zebra, Rev. Josh. Dix, Summertide, Mrs. C. Kean, Garibaldi, Countess Shelbourne, Pauline, and Fairy Queen; second, Mr. J. Keynes; third, Mr. H. Legge. In the amateurs' class for

24, Mr. H. Thorneycroft, Floore, near Weedon, was first with a fine collection; the most striking of them being Volunteer, Peri, Vestal, Mrs. W. Pigott, Juno, John Dory, and Mrs. Church; second, Mr. J. Sladden, Ash, near Sandwich; third, Rev. C. Fellowes, Shottesham Rectory, Norwich; fourth, Mr. C. J. Perry, the Cedars, Castle Bromwich. Mr. Thorneycroft was again first for 12, all of which were fine; they were Lord Derby, Admiral Dundas, Criterion, Hugh Miller, Volunteer, Beauty of Hilperton, Chairman, Lord Palmerston, British Triumph, Lady Popham, Juno, and Geo. Elliott; second, Mr. Charlton, near Leicester; third, Mr. J. Sladden; fourth, Mr. J. Wakeman, Eltham Park, Kent. The Rev. C. Fellowes was first for 12 fancies, which were nicely done; they were the Flirt, Pauline, Queen Mab, Seedling (light pink with dark stripes), Fancy Queen, Seedling (bright crimson, white tipped, fine colour, but rather coarse), Seedling (primrose, with crimson splashes); second, Mr. J. Sladden; third, Mr. C. J. Perry.

New Dahlias.—By Mr. George Wheeler, nurseryman, Warmminster: Mrs. Wheeler, a medium-sized, pretty flower, white tipped with mauve; second-class certificate. By Mr. J. S. Burgess: Chelsea Hero, a flower which improves by looking at, of a curious colour, purplish-tawny, with mauve centre; second-class. By Mr. H. Legge: first-class certificate for Nonsuch, a fine flower of a brownish-buff colour, the under side of the florets being tinged with crimson; second-class certificate for Fancy Boy, a pretty little light brown flower, splashed with dark crimson; also for Enchantress, ground colour light brownish-yellow, tipped with a beautiful purplish-lake. By Mr. J. Keynes: first-class certificates for Anna Keynes, a great beauty, large, white, tipped with lilac; Fanny Purchase, medium size, bright sulphur-yellow, good; Edward Purchase, rather darker than Bob Ridley; Samuel Bartlett, bright lilac, striped with dark crimson; Polly Fawcett, there were three flowers shown, all

different in colour, yellowish-brown suffused with crimson, white tipped. Second-class certificates for Fascination, pink ground, crimson stripes, thin; John Wyatt, fine dark purplish-crimson; Regularity, very irregular markings, white, striped with dark and light purple.

Gladioli were in considerable numbers, but were hardly so numerous as in previous years. Mr. J. Standish was first for 24 cut spikes, with extra large flowers with broad segments; the finest were Mrs. Dix, Edith Dombrain, Queen Victoria, Scottish Chief, Empress Eugenie, Carnata, the Dauphin, Umpire, Rowena, Mr. Peach, and Lady Stamford. Messrs. Youell and Co., of Great Yarmouth, were second, and Mr. J. Cattell third. Messrs. Youell had besides a handsome collection of nearly a hundred varieties, very fresh and beautiful, which were much admired. A mass of *Brenchleyensis* at the end of their stand was very conspicuous by its bright scarlet colour.

The *Verbenas* shown by Messrs. Perkins and Sons were beautifully done; they took first, third, and fourth prizes for 24 varieties, five trusses of each. Mr. C. J. Perry being second. The stand which obtained the first prize contained a fine selection; they were, the Moor, crimson; Madame H. Stenger, pink, rose eye; Foxhunter, Reine des Amazons, pink, plum eye; Annihilator, mauvy-plum; Magnificans, deep lilac; Mrs. Pennington, red rose; Rosy Morn, rich peach; Emperor, mulberry; Emperor of Morocco, deep maroon; Apollo, shaded pink; King of Verbenas, plum, light eye; Rainbow, purple, shot scarlet; Grand Eastern, peach, extra fine truss; Gen. Simpson, rosy scarlet; L'Avenir de Belant, pale blush, deep eye; Géant des Batailles, Delicatissima, lilac; Brilliant de Vaise, Warrior, rose, large truss; Snowflake, fine white; Earl of Shaftesbury, white, peach eye; and Lord Raglan.

Hollyhocks were extremely beautiful, and it would be difficult to meet with a finer collection than the twenty-four shown by Mr. W. Chater, nurseryman, of Saffron Walden.

They were all perfectly symmetrical, and as the florets were as compact and close as possible, they left nothing to be desired in form, while the colours were admirably selected and grouped. Mr. Chater's varieties were Minerva, Geo. Young, Mr. M'Night, Invincible, Princess, Lucifer, Acme, Chrysolite, Joshua Clarke, Hesperus, Matchless, Governor General, Lady Dacres, Queen Victoria, Princess of Wales, Illuminator, Beauty of Mitford, La Dame Blanche, Warrior, Pericles, James Allen, Decision, and Cynthia. 2nd. Messrs. Downie, Laird, and Laing. 3rd. Mr. Jabez Chater, Gonville Nursery, Cambridge.

Roses.—The dry season we have had was very unfavourable to the production of good flowers, and there were none shown which were worthy of particular notice.

Asters were shown in great perfection and considerable numbers. All the stands were beautiful, but those which took the prizes were exceedingly lovely, and excited great attention and admiration. 1st. For twenty-four French asters, Mr. R. H. Betteridge, Milton Hill, Steventon, Berks. 2nd. Mr. C. Wyatt, gardener to H. Willis, Esq., Epsom. 3rd. Mr. C. Sanford, gardener to T. Thomasset, Esq., Walthamstow.—*German Asters*: 1st. For twenty-four, Mr. R. H. Betteridge. 2nd. Mr. L. Besley, East Hendred, Berks. 3rd. Mr. J. Jennings, Shipston-on-Stour. A very interesting and beautiful specimen of *Lapageria rosea*, in a pot, was shown by Mr. Uzzell, gardener to the Duchess Dowager of Northumberland, Twickenham. It was trained on a wire trellis of the form of a flattened globe; the rows of rosy blooms with which it was covered attracted universal admiration, while the numerous buds upon it gave promise of a long continuation of its beauty: it was, perhaps, the finest specimen grown in a pot which has ever been exhibited.

ROYAL HORTICULTURAL SOCIETY, SEPT. 9.—At this show the Dahlias were very beautiful, and were shown in great numbers; but Asters and Hollyhocks were not nearly so good

as at the Crystal Palace. This was owing to some heavy showers which we had a day or two before the exhibition.

Dahlias.—Mr. Turner was, as usual, first among the nurserymen. His collection of forty-eight were grand specimens of cultivation; they comprised Norfolk Hero, Andrew Dodd, Mr. C. Waters, Donald Beaton, Miss Pressley, Hon. Mrs. Trotter, Warrior, Seedling No. 19 (a light yellow), Sidney Herbert, Seedling No. 77 (a deep mauve), Mrs. Church, Mr. Stocken, Criterion, Garibaldi, Princess of Prussia, Mrs. Bush, Madge Wildfire, Midnight, Goldfinder, Triomphe de Peq, Grand Master, Seedling (a light lilac, with the under sides of the florets deep lilac), Seedling No. 25 (white), Pre-eminent, Hugh Miller, Beauty of Hilperton, Lord Cardigan, Mrs. W. Pigott, Delicata, Lord Derby, General Jackson, Sir George Douglas, Seedling No. 17 (lilac), Lady Popham, Bob Ridley, Mrs. Henshaw, Earl of Shaftesbury, Chairman, Juno, Pioneer, Charlotte Dorling, Lord Clyde, Volunteer, Lord Palmerston, George Elliot, Cygnet, Mauve Queen, Umpire. Mr. H. Thorneycroft, Floore, near Weedon, was first among the amateurs for eighteen varieties, all of which were beautiful. 2nd. T. Charlton, Esq., Knibworth, near Leicester. 3rd. Mr. W. Corp, Milford, Salisbury. 4th. Rev. C. Fellowes, Norwich. The Rev. C. Fellowes was, however, first with twelve fancies, which were a charming lot: Pauline, Seedling (large flower, yellow with crimson stripes), Flirt, Seedling (pink with crimson stripes), Lady Paxton, Oliver Twist, Queen Mab, Seedling (dull red, deep stripes), Fancy Queen, Seedling (carmine, white tipped), Harlequin, Summer-tide. 2nd. Mr. W. Corp, Milford, Salisbury. 3rd. Mr. J. Sladden, Sandwich, Kent. 4th. Mr. C. J. Perry. Mr. J. Keynes, of Salisbury, was first for twenty-four fancies, shown by nurserymen; Mr. Turner being second, and Mr. Legge, of Edmonton, third.

New Dahlias.—By Mr. C. J. Perry, 2nd class certificate for Sylph,

white, deeply edged with lilac. By Mr. Collier, B-natal Green Road, 2nd class certificate for Annie, medium size, pinkish-white, heavily margined with crimson. By Mr. Hopkins, Brentford: Brunette, buff, heavily edged with plum. By Mr. H. Legge: Roundhead, deep maroon; Eucan-tress, buff, broad peach edging, both 2nd class certificates; 1st class for White Perfection, good size, fine form, stiff florets. By Mr. Turner: Prince of Wales, bright yellow, 2nd class. By Mr. Keynes, 1st class certificates for Anna Keynes, white, tipped with lilac, Earl of Pembroke, deep plum; Fanny Purchase, bright yellow; 2nd class certificates for Sam Bartlett, lilac, striped with crimson; Magpie, rich crimson, heavily tipped with white; Regularity, white, striped and splashed with plum and lilac. By Mr. Burgess, Chelsea: Hero, tawny buff, inclining to mauve towards the centre, 2nd class. By Messrs. Bragg and Co., Slough: Garibaldi, dark salmon; Useful, plum, rather coarse, both 2nd class. By C. Kimberley, Coventry: Messenger, lilac striped with dark crimson, 2nd class. By Mr. Wheeler, Warminster: Watty, large, bright red, 2nd class; 1st class for Coronet, bright maroon.

Gladioli.—Messrs. Youell and Co., of Great Yarmouth, made a very beautiful display, obtaining 1st prize for twenty-four distinct varieties, all of them excellently produced. Mr. Standish was second, and Mr. Price, of Oxford, third.

Asters were shown in large numbers, but the tips of the florets of most of them were turning brown. 1st. For twenty-four, R. H. Bette-ridge, Esq. 2nd. Mr. C. Wyatt. 3rd. Mr. C. Sanford. These exhibitors occupied similar positions with German asters.

Hollyhocks.—Mr. Chater was first with twelve, which were Acme, Warrior, Geo. Young, Princess, Seedling of a bright rose colour, Minerva, Decision, Rev. Joshua Dix, Carus, Invincible, Macrantha, and Princess of Wales. 2nd. Messrs. W. Minchin and Son, Hook Norton, Oxon, 3rd. Messrs. Paul and Son.

Fruit.—The show was by no

means large, as there were no prizes offered for grapes, and but few for any other kind of fruit. There was a good display of apples, pears, plums, peaches, and other autumn fruits, a few good pines, and several excellent melons. Messrs. Lucombe, Pince, and Co., of Exeter, exhibited a seedling called "Mrs. Pince's Black Muscat," the bunch well shouldered, and of fair size. The berry is about the same size and shape as a first-class sample of Muscat Hamburg; the flesh is sweet, juicy, and luscious, and has a fine Muscat flavour. The society exhibited a collection of grapes grown at Chiswick, comprising, of *white grapes*, White Frontignan, Chasselas Souchet, Ward's Early, Trebbiano,

Muscat of Alexandria, Golden Hamburg, Royal Muscadine, Reeves' Muscadine, White Nice, and Ah-bee. The last is a most beautiful grape, owing to the soft rosy blush which overspreads the bunch, but it is only second-class in flavour. Of *black grapes* there were fine samples of Black Muscat, Noir de Jura, Morocco Prince, De Candolle (colour reddish bronze), Black Prince, Black Monukka, Tokay des Jardins, Frankenthal, Black Hamburg, Catlanesi Nera, Strawberry Scented, Mill Hill Hamburg, Violet Frontignan, Espersione, Buckland's, Barbarossa, Muscat Hamburg, Oldaker's West's St. Peter's, Gros Colman, Dutch Hamburg, and Charles Rose de Falloux.

CULTIVATION OF MIGNONETTE IN POTS.

AMONGST all the odoriferous plants which are cultivated for decorating the conservatory and the drawing-room, there is none more universally admired or more easily cultivated than the mignonette; and yet it is seldom that we see it brought to that perfection of which it is capable, more especially during the winter and spring months.

Reseda odorata, or the Mignonette, is a native of Egypt; it is, under ordinary treatment, an annual plant, growing from six inches to a foot in height, and is hardy enough to stand this climate during the summer months; but it will not survive our ordinary winters, unless in some very sheltered situations. In order, therefore, to obtain a regular succession recourse must be had to pot or box culture, which will form the subject of the following remarks.

The beginning of February is early enough to make the first sowing for a spring supply. The soil which should be used should consist of one half loam, one fourth part dung, and one fourth part leaf-mould, well mixed together, and used in as rough a state as possible: the worms (if any should be in the soil) ought to be carefully picked out, or they will cause great injury to the plants, by stopping the drainage and disturbing the roots.

The pots known as "forty-eights" will be large enough for this sowing; and these should be prepared by placing a crock over the hole in the bottom, and laying on this about two inches of the roughest of the soil, after which they should be filled with soil, pressed evenly and firmly, leaving the surface level within half an inch of the rim. On this the seed should be sown regularly, and, if its quality can be depended on, two dozen seeds will be enough for each pot; they will come up stronger than if sown thicker. Sift a little soil over the seeds, and give this a gentle pressure with the back of the hand, leaving the surface smooth and even, but not "glazed;" then give a gentle watering with tepid water, which will warm the soil and assist germination. Plunge the pots in a frame with a gentle bottom-heat, and keep the lights shut till the plants begin to appear; afterwards admit a little air every day, if the state of the atmosphere will allow; but at all times avoid the admission of currents of cold air, as I am convinced that mignonette suffers severely from too rash an exposure to cold winds. When the plants become a little inured to exposure, remove the lights every fine day, which will prevent them from being drawn, and better enable them subsequently to support

themselves. As soon as the seed-leaves are fully developed, thin out the plants, leaving at this time ten or twelve in each pot; this number should be retained, as they are liable to damp off if over-watered, and especially if the weather should happen to be dull. When they have made three or four leaves, thin them out to five plants, which number is sufficient for a 48-sized pot; at the same time stir the surface of the soil, which often becomes caked by continual watering, and thereby prevents the access of air to the roots. When the sun begins to act powerfully upon them, a thin shading for a few hours during the heat of the day will be of great service, by obstructing its rays, which give to the foliage a yellow and unsightly appearance. When they have grown three or four inches, they will require to be tied up, to prevent them from falling over the sides of the pot. In doing this, place five small stakes at equal distances close by the edge of the pot; then pass a strip of matting with a turn round each of the stakes, and fasten it: it is necessary to leave the stakes two or three inches higher than the plants, as I have found them sometimes to require a second tie. If the roots at that time have found their way through the bottom of the pot, they must be broken off, or the plants will receive a severe check when finally removed. In replunging them, give them sufficient room to prevent their being drawn. They will require little more attention, besides giving plenty of air, watering, and shading, till the middle of May, when they will be in good condition for removing to the conservatory.

The next sowing will require to be made about the beginning of April. The same compost as previously recommended should be used. For this sowing, however, I would prefer 32-sized pots, and would allow seven plants to remain in each: by thus having a greater body of soil, it will be found to retain moisture for a greater length of time, and the plants will not be so liable to receive any check by an accidental omission of watering. In other respects, the treatment already detailed should be followed. By the

middle of May, if the frames should be wanted for other purposes, the pots may be plunged in a shady place out of doors. They will come into bloom about the beginning of July. Other successional sowings should be made about the beginning of June and the beginning of August. These may be plunged in a sheltered spot out of doors; and, with attention to watering, thinning, and tying up, as previously directed, they will come into bloom respectively about the middle of August and the end of October. The latter of these sowings must be removed to a frame as soon as danger from frosts may be apprehended.

The next sowing, which is to provide plants for blooming through the winter months, must be made about the middle of September. A little more attention is necessary at this season of the year, in order to prevent them from damping off, and also to secure as much of the sun's rays as possible. The soil I would recommend for this sowing consists of three parts of loam, one part of dung, and one part of leaf-mould. My reason for using more loam at this season is, because the compost then retains moisture longer than if a less proportion were employed; and thus the necessity of frequent applications of water is in great measure done away. In dull weather *mignonette* is very impatient of water; and, when it is applied, it should be done in the morning, in order that the foliage may become dry before night. For this sowing I would use 48-sized pots, giving them a good drainage.

In preparing the frame for their reception, it should be raised behind, so as to give it a good inclination towards the south, for the purpose of gaining the full benefit of the sun, and also of preventing drips, which are very injurious, as the plants seldom recover from checks occasioned by their becoming very wet. The bottom of the frame should be covered with brick rubbish, and over this there should be a stratum of rough coal ashes, and again, on the top, six inches of finely sifted ashes. This must be arranged so that, when the pots are plunged, they may not be

more than nine inches from the glass. When the seeds are vegetated, give as much air as possible; and by attention the plants will begin to flower about the beginning of December, and keep in good condition for three months.

The final sowing should be made about the beginning of October; using the same sort of soil and pots, preparing the frame in the same manner as directed for the preceding, and taking great care in the watering and thinning. By the beginning of March the plants will commence flowering.

When frost sets in, cover the glass with mats and loose hay, taking them off on every favourable opportunity, as the young plants, when excluded too long a time from the light, will turn yellow, and damp off. I would also lay some long litter around the frame, to prevent the frost from penetrating through the sides.

It may be well to mention that in thinning, the plants ought to be left as nearly of an equal size as possible in each pot, retaining the largest in

some, and the smallest in others. This will give a longer succession of bloom; and, if at any time one sowing is likely to be over before the next is ready, pinch out the tops of a few of them when they are beginning to flower; this will cause them to break out again, and bloom three weeks or a month later than the others of the same sowing.

The cultivation of mignonette in boxes differs so little from that in pots, and boxes being seldom used except to stand in particular situations out of doors, it is unnecessary to say much on that head; but, when they are used, the same sort of soil that has been recommended for summer use will suit them very well. I would, however, prefer to grow it in pots till it begins to flower, and afterwards to plant it into the boxes, where it will continue to branch out and flower for a long time. When it has done blooming, these may (if wanted) be filled again in the same manner, and thus a constant succession will be kept up.

D. DOIG.

PLANTS FOR A SHADY WINDOW: FARFUGIUM GRANDE AND CLOTH OF GOLD GERANIUM.

THESE are plants for a window with little or no sun, and it is only under window culture they attain what Darwin would call their highest development. Both plants so change, or rather so increase in beauty under the following treatment, as to appear like different species beside the parent plants grown in the ordinary way, and none are so well adapted "to make a sunshine in the shady place." One thing is essential with both plants—they must *always face one way, always be turned the same side to the light*. Take a strong plant of Farfugium; shift, if required, as it must have plenty of pot room. My experience proves that, to produce the results intended, the Farfugium, contrary to other variegated plants, requires a rich soil. Let it stand in a saucer of water, and about once a week add some weak guano water to it. The leaves must be occasionally

looked over for green-fly, and the top dressed with fresh soil. The leaves can never have too much watering and sponging. The coarse greenhouse leaves will decay, and be succeeded by others beautifully blotched. But it is in spring it reaches its greatest perfection; the ground colour of the leaves then is a golden buttercup yellow, veined and marbled with light and dark green, and as glossy as if varnished: a sight once seen not to be forgotten. For the cut flowers of summer, for the magnificent spikes of gladioli, or for the bright colours of the spring bulbs, it forms a fine background; or the plants may be turned out of doors, as mine now are, in summer (to make room for flowering plants), and to harden them for winter and spring. It must not be forgotten this mode of growth is exhausting for the plants; consequently a supply of young plants must be kept up by

division, and brought to the window as the first decline. Frequent division, plenty of air, pot room, and water are the absolute requirements of its window growth.

I grew Cloth of Gold last year on a shady but airy mound, and it did as well there as in a greenhouse. I am glad to say I have not put it out this year. I have seen some in the full sun get less and less, till now they are mere skeletons, where the ordinary scarlets would have been in perfection. But in the window it has round flat leaves of a pale yellow green, each leaf marked with a very dark green spot in the centre, or rather a variously-sized blotch, as though some one had carelessly touched each with a paint-brush. The leaves entirely lose their incurved shape, are as flat as a five-shilling piece, but considerably larger. Fill

the upper tier of a flower-stand with Cloth of Gold, and place Cerise Unique in the centre, leave a corner below for the white-leaved Bijou, fill up with Farfugiums, and behind their broad spreading leaves, that will soon hide both their own and the neighbouring pots, drop pots of spring bulbs; and whether you view these specimens of Nature's graining from the dusty road with the horrid east wind whistling in your ear, or whether from the cozy arm-chair, while pulling "Old Virginia," you watch the mellowed light streaming through the semitransparent golden leaves, you will alike confess that you have, at a trivial cost, planted a glorious variegated bank unmatched in its contrast of foliage and of flower—"a thing of beauty and a joy for ever."

Deptford.

J. W. DEAN.

ROSES IN THE NORTH OF LONDON.

AMONG the many articles of value in the pages of the FLORAL WORLD, those which relate the experience of correspondents in various parts of the kingdom are not the least interesting and instructive. Whilst its columns are richly stored with essays from the practised pens of the great lights of the horticultural world, there is still a considerable pleasure in communicating with others of a kindred spirit, in making suggestions and comparing notes which bear upon our favourite pursuit, and in imparting knowledge to other amateurs similarly situated which may have been derived from our own observation and experience.

Many valuable treatises upon the culture of the rose have from time to time appeared in this journal, and correspondents from almost every latitude have related their experience in its pages. Having shared the company of its writers and readers from the issue of its first number in 1858, I am desirous of adding a little to the friendly gossip on behalf of the queen of our garden favourites, which, so far, has been one among the many delightful features in our journey.

The situation of my garden is a most delightful one, about five miles north of the Bank, and although well sheltered, with a gentle slope to the south-east, and fully open to the action of the sun, no spot suffers more from sudden atmospheric changes, the memorable frost of Dec. 24, 1860, which spread such destruction over the land, having annihilated every rose in the place. In anticipation of planting a rosery upon an extended scale, I made two experimental beds in the autumn of last year, one entirely clear of trees or any kind of shelter except upon the north side; the other surrounded within only a few feet by shrubs and large growing trees, but none so near as to obstruct sunlight and air, or scarcely to hang overhead in any part of it. The results have been so striking as to decide me, without hesitation, in selecting the most open space I can find, the extreme beauty and healthiness of the trees in the open bed as compared with the shrivelled and sickly growth in the other one, leaving no doubt in my mind as to the choice of site.

Some correspondents, I see, insist upon "protection from the north and east," as indispensable to the cultivation of roses; and one gentleman, in his paternal zeal to coddle up his pets during the winter, actually proposes to dress them up with a head covering, the form of which he recommends should be taken from a grocer's sugar-bag! The idea certainly possesses the charm of novelty, and only requires a little further development in order to imitate the grotesque effigies which abound in certain kitchen gardens to frighten away cats and sparrows, forcibly reminding one of the apparition of that most respectable individual, Guido Fawkes, Esq., and only fit to be shot at. If protection consists of trees and shrubs, planted at a considerable distance from the rosary, I will not object to it, but rather than have my garden defaced by such an army of scarecrows, I would willingly risk every rose I possess. If east winds and frosts deprive you of a few plants or even delay the blooming season, you will be more than compensated by the increased splendour of your flowers and the richness of the foliage.

The subject of soil and drainage has been so amply dwelt upon by abler pens, and is by this time so well understood by every amateur, that I need not add one word. My roses are *never pruned in the autumn*, but are allowed to rest until March, when this operation is performed.

During the month of April (and when the shoots begin to swell), is, as I consider, the most critical period with roses, and the one wherein nine amateurs in every ten never think of bestowing a thought upon them. I do not know whether or not it is a fact that gardens in the country suffer less from the inroads of insects than those in the neighbourhood of London, but I do know that amateurs generally would have far more beautiful flowers and luxuriant foliage if they adopted my plan of going over every tree with a small brush at this season of the year, and keeping a careful look out for depredators every day. This may appear troublesome,

perhaps, but in reality it is not so. Half an hour before breakfast daily for about six weeks, with a brush and syringe, has enabled me to keep a bed of nearly 100 roses in as great perfection, and as free from enemies of all kinds, as if they had been reared in a greenhouse. The month of April and early part of May is the time when the mischief to the summer bloom takes place. Your roses at this period do not attract your attention, for scarcely a leaf is to be seen, and you are unconscious of the havoc that is going on; but a close inspection would speedily reveal the vast purposes of the enemy, and enable you to forestall his plans before the destruction of a single bud takes place. When in the month of June I was rejoicing over my collection of roses, every bloom worthy of a flower-show, and the plants pictures of health, those of many of my neighbours were one mass of disease and blight, whilst the unfortunate blooms looked as though they had been reared beneath the shade of a gasometer! To the question as to how I could grow such beautiful roses, I could only reply that they had had *attention*, and herein, as I take it, is the simple secret of success with this favourite of the garden. I believe if my lot were again cast within the shadow of St. Paul's, I would still grow roses. Smoke and vermin are their only enemies, and both are within the compass of man's power to overcome. If instead of planting your roses and leaving them to take care of themselves, you will just give them a tithe of the attention which you bestow upon bedding plants, one half of the difficulties of their culture within the four-mile circle will vanish.

As the kinds I have grown here differ in some degree from those of many of the correspondents of the *FLORAL WORLD*, I will briefly name them, for they were adopted by me from descriptions given in the editorial articles of this journal.

Senateur Vaisse, must stand at the head of my collection, for nothing I have grown has approached it in magnificence. At the Crystal Palace

Rose Show it reared its proud head far above every competitor, and attracted crowds of admirers.

Maurice Bernardin, a rose of dazzling beauty, colour rich vermilion, very free bloomer, and fine form.

General Washington, fine double flower, of a most brilliant red, and when perfect (which is not always the case), possessing the rare merit of being most beautiful when fully open.

Louis XIV., not so large as Senateur Vaisse, but a splendid rose of rich velvety crimson, and possessing a most exquisite fragrance. Although this magnificent rose flowered freely in June, it has now (Sept. 21) seven superb blooms in beautiful condition.

If my choice of dark roses were limited to four, they would be those I have described; and if I omit General Jacqueminot, it is because I believe his match will be found, and his peculiar merits far exceeded, in one or in all of them, but I will name the rest.

Madame Rivers, a rose of exquisite shape, colour clear flesh and very full, a competitor with Madame Vidot, the two most beautiful of their kind known.

Bourbon Queen, a delightful rose, has not ceased to bloom since June to the present time. No rosary should be without it.

Souvenir de la Malmaison and Gloire de Dijon, too well known to say more than that they have bloomed here luxuriantly.

Of rose colours, my selections are Victor Verdier (now without a rival), Jules Margottin, William Griffiths, Madame Caubaceres, and Beauty of Waltham. Geant des Batailles (an old friend) I am compelled to discard, as, despite the best of treatment, his blooms are not much larger than a crown piece. Lord Macaulay and Lord Clyde are duly entered for next season; but in the formation of my

rosary it is not my intention to enlarge upon too many sorts. I prefer a multiplication of established favourites *ad libitum*, to the doubtful pleasure of being the possessor of every rose that has figured in the catalogues, or even passed the award of the judges. Although called perpetuals, roses have not bloomed well this autumn in Stoke Newington, the cause of which I believe to be the excessive heat and drought prevailing throughout the months of July and August.

The pages of the FLORAL WORLD are not intended to palm off the merits of any one rose-grower among the many highly respectable houses in the trade; but I should like to be permitted to say that I obtained mine from Messrs. J. and J. Fraser, of the Lea Bridge Road Nurseries, and further that, as these gentlemen are personally unknown to me, there can be no harm in remarking that, for amateurs near London, their collection of roses is extensive, as is also their experience of the kinds best suited to the climate. That they are always courteous and obliging will, I think, be admitted by all who have ever spent an hour in the nursery.

No one has done so much for rose amateurs who reside in towns as Mr. Shirley Hibberd, who enters into his task *con amore*, and whose enthusiasm for his art is the life and soul of this journal, over which he presides with so much zeal and ability. I have tested the soundness of his advice by my own experience, in a garden within the sound of Bow Bells, and also in one not far from the four-mile radius, and it is simply a duty as well as a pleasure that I should bear my humble testimony to my friend's merits in this department of literature, and the many obligations he has conferred upon all lovers and cultivators of the rose. G. S.

Woodberry Down, Middlesex.

DEATH OF MR. HUGH LOW.—We sincerely regret having to announce the death of the senior partner in the distinguished firm of Hugh Low and Co., of Clapton Nursery. Mr. Hugh Low, sen., died on the 15th inst., at his residence in Clapton, in

the 70th year of his age. His loss not only will be keenly felt by all those who have known him in the way of business, but will be a matter of great regret to the residents in his immediate neighbourhood, by whom he was greatly beloved.

OCTOBER, 1863.—31 DAYS.

PHASES OF THE MOON.—Last Quarter, 4th, 7h. 24m. after.; New, 12th, 6h. 42m. after.;
First Quarter, 19th, 8h. 6m. after.; Full, 26th, 5h. 56m. after.

D M	Sun rises.		Sun sets.		Moon rises.		Moon sets.		Weather near London, 1862.			Rain.	THE COUNTRY.				
	h.	m.	h.	m.	Aft.	Morn.	Mx.	Min.	Mx.	Mn.	Me.		The Garden and the Field.				
1	6	25	38	7	41	11	1	30	09	29	09	67	47	57	0	Horse chesnut leaves	
2	6	35	36	8	29	11	58	30	09	30	09	73	56	64	5	fall.	
3	6	55	34	9	21	After.		30	27	30	26	72	45	58	5	Walnut leaves fall.	
4	6	75	31	10	19	1	30	30	40	30	38	64	45	54	5	Virginian creeper turns	
5	6	85	29	11	20	2	4	30	38	30	34	66	45	55	5	red.	
6	6	10	5	27	Morn.	2	35	30	04	29	93	71	48	59	5	Genista Pilosa fl.	
7	6	12	5	25	0	24	2	56	29	06	29	95	58	49	53	5	Purple violet fl.
8	6	13	5	22	1	29	3	18	30	20	30	17	65	50	57	5	Sloe ripe. [golden.
9	6	15	5	20	2	35	3	39	30	18	30	14	73	41	57	0	Birch leaves become
10	6	17	5	18	3	42	3	59	30	03	29	95	75	43	59	0	Poplar and Cherry
11	6	18	5	16	4	51	4	20	29	52	29	80	69	49	59	0	leaves fall.
12	6	20	5	13	6	2	4	44	29	73	29	46	68	46	57	0	Hazel leaves turn yel.
13	6	22	5	11	7	14	5	9	29	78	29	77	63	47	55	0	Ash leaves fall.
14	6	23	5	9	8	28	5	41	29	80	29	70	71	45	58	0	Elm seeds turn yellow.
15	6	25	5	7	9	39	6	22	29	76	29	60	74	44	59	0	Honeysuckle leaves fall.
16	6	27	5	5	10	47	7	10	29	97	29	89	62	41	51	5	Stiff Wheatgrass ripe.
17	6	29	5	3	11	47	8	10	29	60	29	45	61	48	54	5	Birch leaves fall.
18	6	30	5	0	After.	9	19		29	65	29	45	51	32	41	5	Elder leaves fall.
19	6	32	4	58	1	18	10	33	29	76	29	85	62	42	52	0	Hazel leaves fall. [fl.
20	6	34	4	56	1	53	11	50	29	47	29	20	51	36	43	5	Shepherd's Spikenard
21	6	35	4	54	2	20	Morn.		29	81	29	69	58	43	50	5	Limes leafless.
22	6	37	4	52	2	45	1	11	29	50	29	39	58	44	51	0	Beech leaves fall. [less.
23	6	39	4	50	3	9	2	33	29	32	29	21	59	34	46	5	Virginian creeper leaf-
24	6	41	4	48	3	33	3	47	29	72	29	66	59	27	43	0	Walnut leafless.
25	6	43	4	46	3	58	5	5	29	90	29	73	56	50	53	0	Fleshy-leaved Golden
26	6	44	4	44	4	25	6	21	29	80	29	55	60	39	49	5	rod fl.
27	6	46	4	42	4	57	7	33	29	92	29	78	57	47	52	0	European Leadwort fl.
28	6	48	4	40	5	35	8	42	29	77	29	75	50	40	45	0	Carolina Lily fl.
29	6	50	4	38	6	20	9	44	29	97	29	88	53	25	39	0	Hawthorn leaves fall.
30	6	51	4	36	7	11	10	39	29	81	29	72	51	43	47	0	Autumnal Snowflake fl.
31	6	53	4	35	8	7	11	23	29	74	29	66	55	40	47	5	Pear leaves fall.

PROBABLE WEATHER IN OCTOBER.—Bright, dry, and warm till about the 7th; wind S.W. to S., then changeable with wind and rain, and occasional sunny days till the 12th; wind N.N.W. to N.N.E. From the 12th to the 24th agreeable autumn weather; wind generally S.S.W. to N.W. From the 24th to end of the month clear cold weather; wind N. to N.E.; frost likely about the 28th.

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## THE GARDEN GUIDE FOR OCTOBER.

THE SEASON.—We shall surely submit to the rigours of the winter with the more complacency this year, that we have enjoyed a long and a brilliant summer, which has been one of the most fruitful known in the experience of any among this generation. The crops are all harvested, and with very

few mishaps, wheat and potatoes were never finer or more abundant, and generally in spite of long droughts, garden produce of all kinds is plentiful, and unusually good. Let us be thankful for these favours of a kind Providence, and join with heart and voice in the acknowledgment of the many

mercies showered upon us by the God who has promised that "seed-time and harvest shall not fail," and that "he who goeth forth weeping, bearing precious seed, shall doubtless return in joy, bringing his sheaves with him."

From this time till frosts come, it is the gardener's duty to take advantage of every ray of sunshine, so as to promote the ripening of all kinds of stock, and to keep greenhouse plants exposed to the air as long as it is safe to do so. It is not the cold, but the heavy rains which do most injury to tender plants at this season; hence, many things, besides true greenhouse plants, are all the better for the protection of a frame or cold pit, where they can have shelter, but plenty of air and light. This is a busy month; nearly every kind of winter work may be commenced, and, indeed, completed, if weather permits. Roses may be moved at once, in full leaf, and, if left unpruned, will soon get root, and be well established before spring. Deciduous trees and hardy fruits may be planted towards the end of the month, for there is no need to wait till every leaf has fallen. Get them into their places while the ground is warm, and a season is saved, and the tree will always be the stronger for it, for the fate of many a tree is sealed in its original planting. Earthwork, too, may now be commenced, and drains laid, turf stacked for forming composts, and deep soiling practised on ground suited to such treatment, so as to have it in ridges in good time to be acted on by frost. The whole of the arrangements for next season should be determined from this time, and, in taking up bedders and decorative plants from the borders, their good and bad qualities should all be noted down, so that things that have proved inferior, or that evidently do not suit the soil or situation, may be substituted next season for subjects of higher merit. Every soil has its peculiarities, and one great secret of success, especially in ornamental gardening, is to select varieties that have been proved to succeed in the place; for even geraniums or calceolarias do well or ill, according to the effects of soil or climate upon them. Pits, frames, and houses, ought now to be clean and free from the smell of paint and putty. If any repairs have been neglected, see to them at once, and get all sweet and dry without a day's delay; for when we get to October, we are never sure, for a week together, but that our appliances and manual skill may have a sudden trial. Usually we have mild weather till Christmas, and there seems every probability that this season will be no exception; but the prudent

gardener works by anticipation, and is always ready for emergencies.

**KITCHEN GARDEN.**—This is a time for earnest work in every department. Make a general clearance of the ground wherever there are vacant spaces, and ridge up all plots not to be planted on during winter. Get a waste corner clear for heaping up manures and composts, where they can be turned over during frosts, and, if convenient, empty the muck pit, and cover the rotted stuff with a layer of soil to throw off rain; the whole to be turned two or three times before using it in spring. In preparing for next year's crops, trench over first the ground intended for root crops next season, and choose for potatoes, carrots, parsnips, and beet, plots that have been well manured this year. If the soil allows of deep digging, fork over the second spit, and if it is of a friable and fertile nature, bring it to the top, so as to turn the whole soil over eighteen inches or two feet deep. Plant out the August-sown cabbage; leave the weakest in the seed-bed for future planting. Plant out lettuce in a warm situation, take up potatoes, carrots, beets, and parsnips, earth up celery. Use the fork, spade, and hoe as much as possible to keep all plots clean, and destroy the large crops of weeds that the autumn rains will bring up. Lay cabbages and broccolis that are forward with their heads to the north. Cauliflower plants to be transplanted into frames, or under hand-glasses. In cold and wet districts, it is best to pot them to winter them in frames, to be turned out into beds of rich soil in spring. In undrained soils, it is a good plan to cut a few channels among standing crops, to enable the heavy rains to run off more quickly to an outlet, as dryness of the ground very much lessens the effects of frost. Fork over asparagus beds, and clear away all litter; remove the stems with a knife, and dress the crowns with manure, and a little fresh mould over all. This is the best time to make plantations of rhubarb for producing next season. Let the ground be deeply dug and well manured. Tomatoes not ripe should be cut with a length of stem, and put in a warm greenhouse where they will soon ripen.

**FLOWER GARDEN.**—Let chrysanthemums be securely staked; train out plants in pots, and make them neat and tidy for blooming, give plenty of water. When required to take the place of bedding plants, get them into their places without delay, and lift carefully with good balls. Chrysanthemums in the borders should be looked over without delay, to see that they are



sufficiently staked, for heavy rains and winds play terrible havoc with them, when they are not well supported, owing to the profusion and weight of their blooms. Where they are required to take the places of bedding-plants, they should be got to their places at once, and be lifted with good balls, and well watered in. Choice and delicate sorts are best flowered in pots, under glass, and, for this purpose, they ought to have been potted two or three months ago, and slitted as required, and trained out, so as to give effect to their beauty when in bloom. The bulbs to be planted this month are hyacinths, crocuses, scillas, crown imperials, lilliums, irises, narcissus, jonquils, daffodils, and early tulips. Next month is soon enough for late tulips, and anemones and ranunculuses are best kept out of the ground till February, except in places where autumn planting has been proved to answer for them, in which case it is preferable. Herbaceous spring flowering plants may also be got into the borders, to bloom at the same time as the bulbs, such as wallflowers, primulas, polyanthuses, arabis, alyssum, aubrietia purpurea, pansies, dielytras, iberis, etc. Get all plants of questionable hardiness, and any that are liable to suffer from wet or the attacks of snails, under cover. Choice alpine are more easy of preservation, if potted and put in frames. Auriculas, choice pansies, carnations, pentstemons, Brompton and intermediate stocks, myrtles, and even hollyhocks, if the situation is a damp one, must go to similar quarters for the winter, and have plenty of air in mild weather. Remove decayed leaves wherever they occur, to prevent the formation of moulds about growing plants. The ground for the best bed of tulips should now be forked over two feet deep, and lay four inches of cow-dung in the bottom of each trench as you proceed.

**FRUIT GARDEN.**—Towards the end of the month, gooseberries, currants, and raspberries may be moved. New plantations should be made on ground deeply trenched and manured; gooseberries and raspberries need a richer soil than currants; and black currants and raspberries will thrive in more marshy ground than any other of the bush fruits. In all removals, whether of trees, bushes, or herbaceous plants, let the roots be examined, and all diseased, or mouldy portions, cut clean away.

*Currant and Gooseberry* canes may be put in to increase stock, and for this purpose two-year-old wood is better than the shoots of the season, if disbudded a foot or eighteen inches from the base. Drain and trench the ground where fruit-trees

are to be planted next month. Moss on apple-trees generally disappears when the ground is drained. Root-pruning and planting may be commenced the last week, but root-pruning should only be resorted to in the case of over-luxuriant, unfruitful trees. In planting fruit-trees, unless the soil is poor and exhausted, use no manure whatever—pure loam is preferable to an enriched soil, for all trees intended to bear early and live long. You need not wait till next month if your ground is ready; trees may now be moved, even if they have not shed their leaves, and will make fresh roots immediately.

**GREENHOUSE AND STOVE.**—House at once whatever is to be wintered under glass. Remove the shading, give plenty of air, and whenever green-fly or thrips appear, resort to effectual methods at once, and much future annoyance will be saved. Plants that are to bloom during the winter should have the best place as to warmth. Give plenty of air, day and night, and remove the shading, so as to let in all the sunshine that can be had. Avoid making up fires; but, when it becomes necessary to do so, make a brisk fire, so as to dry the house and promote a current of air; otherwise, push nothing into growth more than may be needful to insure vigorous health and plenty of stamina. Chrysanthemums will now keep the house gay for a while, and, as they go off, fuchsias and geraniums, from summer cuttings, may be got into bloom by giving the plants good places and shelter from draughts. If mildew appears, use flower of sulphur; for green-fly, tobacco smoke. If aphides get possession of the tender crowns of cinerarias and fairy roses, and smoke fails to dislodge them, turn the plants upside down into weak tobacco-water, and then lay them on their sides, and syringe them well with soft tepid water.

*Tulips* to be sorted over, and arranged for planting. In a bed of fancies, be particular as to heights, as it spoils a bed to get first or second row flowers into third or fourth rows. Contrasting the colours is of far less consequence than getting the heights correctly, and some sorts grow taller or dwarfer than they are marked in the catalogues, where any peculiarity of soil affects them. Border and bedding tulips should be ordered in quantity at once.

*Apples* to be carefully gathered as they ripen, and to be stored at once without wiping them. This is a convenient time to cut out dead wood.

*Auriculas* to have plenty of air, and be protected against damp, which is apt to injure them as the weather grows chilly.

*Azaleas* and *Camellias* standing out should be got under glass at once, but still to have plenty of air. Those coming on for bloom will require frequent syringing.

*Carnations* potted last month will require to be looked over to remove dead leaves, and to see that mildew is not attacking them. Keep them well aired.

*Broccolis* in exposed places may be heeled over to be safe against the first frost; stir the ground between them, but do not earth up the stems.

*Cabbage* sown in August to be planted out as fast as ground can be got ready. In sheltered places manure may be used liberally, but in exposed districts it may cause too free a growth before winter if the plants are to stand.

*Dahlias* require a good deal of care now to keep them trim, and as flowers are getting scarce, let the dahlias have necessary attention to keep them gay to the last. Make up your list of varieties for next year, while the flowers are in bloom, and throw out every one that has not realized your expectations. When there are so many good ones, it is a folly to tolerate any that are of questionable merit.

*Evergreens* planted now will make better growth next spring than those planted in February and March. Give orders at once for all trees and shrubs required, that there may be no delay in obtaining them as soon as the nurserymen begin to take them up. All small subjects may be taken up at once in full leaf.

*Geraniums* newly struck will require to be kept rather warm to encourage the formation of roots; those that are strong in pots may have plenty of air, and be kept rather dry to check growth. If more geraniums are wanted, put in the ripest shoots you can get, five or six round the sides of five-inch pots, and place them on a top shelf. They will root in time, though slowly.

Of course they must be kept moderately dry.

*Hollyhocks* of the best sorts to be propagated to keep up a good stock. They should be renewed by cuttings every year.

*Vines* breaking to be encouraged with a temperature of 60°. Pines will require 85° at least.

*Vines*.—Beware of too much heat in the vinery this month, for any excess will cause vines to push too fast for the amount of light they get. Give air freely on fine days, and keep a sharp look out for vermin of all kinds, which, at this time of year, frequently do much damage before they are suspected. Where grapes are desired to be kept hanging, a very dry air must be maintained; hence, plants in pots that require frequent watering should not be kept in the same structure till the grapes are off. Prune the vines that are to be started first, and clean the stems. Keep the sashes off till about the 20th of the month, and then put them on, and cover the border with leaves and sloping boards.

*Cinerarias* should be kept growing freely, and be regularly stopped to produce good specimens. At this time of year they are very subject to mildew and green-fly. Use the proper remedies as soon as there are the least signs of such plagues, and keep the plants well aired to induce robustness. Keeping the outsides of the pots clean will do much towards insuring their health.

*Pelargoniums*, for spring exhibition, will now want another shift. Get them into their blooming pots at once, use good turfy loam and old manure, plenty of drainage, and, for a fortnight after shifting, give very little water.

*Bedding Plants* may still be propagated, but the stock ought to be complete by this time. *Calceolarias* put in now will make good plants for bedding next summer.

## GARDENING IN DUMBARTONSHIRE.

My garden, shrubberies, orchard, paddock, etc., here, cover six acres of land, and stand on the side of the Gare-loch, having a north-westerly aspect, on sloping and undulating ground, and well sheltered from the east and south-west (our two worst quarters for gales of wind). Although we suffered severely this last winter from those from the north, which stripped several of the tender shrubs, and caused, what I never observed before, all

the hollies, variegated and others, of which in all I have *seventy*, to drop their leaves; they are beginning now, however, to put out again.

From the top of my garden there is a view of the whole range of the Argyllshire hills, from the Cobler down to the Clyde, and on these we see plenty of snow during the winter months. We have the clear mountain air of the Highlands constantly blowing around us; but this is tempered

down by the influence of the gulf stream which eddies into this loch, and by raising thereby the temperature of the water, so affects the atmosphere above it. This favoured state of the atmosphere, together with the sheltered position from the east winds of spring, explains the salubrity of this locality, and the extraordinary fruitfulness of the soil in the vegetable and floral world. At the same time we have our frosts, and cold winds, and blight, and caterpillars, and snails, to wage war against us, and often try us almost as severely as an April east wind over the wolds of Suffolk. Last winter was *very mild* here; I do not think we ever registered more than 10° of frost any one day or night; our principal trials have been from the northerly winds. Still, in November and December of last year, we had snow lying four inches deep for some days. During the spring the frosts have been very light, only twice, namely, at the end of April and the beginning of May did they do any serious mischief; and although the apples, wall fruit, and gooseberries do not promise well, and notwithstanding abundance of bloom, do not set, still I am inclined to believe that this arises more from the effects of some very late frosts *last spring*, which quite spoilt the buds and prevented the young bearing wood for this year from ripening properly, than from any frost this spring. The strawberry beds never looked better, they are covered with sheets of bloom, and the berries are setting and swelling very well so far. We have had hardly any east wind, and everything is looking healthy and forward. The potatoes are a foot high, our early peas are in pod, beans in blossom, cauliflowers heading, and other flowers as bright and gay as any need wish to see them. And as now I wander on to the flower garden, let me here thank you for your little packet

of "*Antennaria Margaritacea*" and your hints concerning its treatment. I followed the latter, with the piece I received, and I last week planted out, round a circular rose bed, *twelve yards* of healthy plants, four inches apart, all rooted, and promising to make a very pretty edging, from which to draw a store for next year's bedding out. Our hyacinthus, planted out of doors in November, were beautiful, and were succeeded by fine anemones and tulips, now just beginning to fade; but our other plants are now *growing*, and gazanias, lobelias, verbenas, scarlets, calceolarias (not yellow), asters, stocks, tropeæolums, etc., etc., will soon be in their full bloom of summer colours.

The bloom of *Clianthus puniceus* is just beginning to decay after having been the admiration of every one who was fortunate enough to see it. It has been a perfect sheet of scarlet, in the sun quite dazzling. We have now in the same aspect, in front of the house, *Escallonia rubra*, and *E. floribunda* coming out into bloom, as well as two hydrangeas, each six feet high, likewise showing flower; all these have stood out several winters, and were not covered or sheltered in any way last winter. I have also upon the lawn an *Aralia japonica*, five years old, and now nearly six feet high, which stood quite unprotected through last winter, and is now throwing out its crown of long stately leaves. Of our shrubs, however, I am proudest of a *Cryptomeria japonica* which stands in the middle of the flower garden and is now over twenty feet high; it is beautifully feathered with foliage, and growing with full vigour.

*Dumbarton, June 10, 1863.* F. P. F.

[We much regret that the publication of this interesting communication has been deferred so long; fortunately, it has an interest for all seasons.—Ed.]

## TO CORRESPONDENTS.

**OTAHEITE versus MANDARIN ORANGE.**—A very small tree, received as the *Otaheite* orange, has been pronounced the *Mandarin* orange. The fruit, in bunches of five or six, come single; others, two, three, etc., but the larger number most frequently, but only two or three attain full growth, and some single only. The flowers are purple in bud, when open the petals white at the upper part; the fruit the usual form of the China and other

dessert oranges, rich orange-colour when ripe, *very red* at the lower half when ripening; length and diameter from one and a half inch to one and three-quarters. A leaf is inclosed; at the top of the fruit in early stages a protuberance like that on the lemon, very large in proportion, seems to become absorbed in the growth, but still remains in a degree distinct at the top when quite ripe. Loudon describes the Man-

darin orange as having *white flowers*, he does not mention the Otaheite. The Mandarin being grown for dessert, but the Otaheite for preserving, I wish to know *which*, if *either*, my trees, as the fruit is *nearly ripe*. If the Otaheite, is it preserved *whole*, or made into marmalade?—*A Former Asker, etc.* [The Otaheite is simply a variety of the Mandarin. The Mandarin is *Citrus nobilis*, the Otaheite is *C. nobilis minor*. But the variation is so trifling that a well-cultivated tree of the latter could scarcely be distinguished from a tree of the normal type. The flowers of this species, and the variety, may always be known by their purple colour in the bud state. This and the myrtle-leaved orange (*C. vulgaris*) are the most useful for small conservatories, as they produce a large quantity of blossom and fruit in a very small state. Three dozen fruit have been counted on a tree only a foot high, and which, after being allowed to bear so many, would probably never grow any higher. Indeed we may venture to say that of all greenhouse shrubs, the Mandarin and Otaheite oranges are as certain to repay good cultivation as any plants in cultivation.]

**CATALOGUES RECEIVED.**—“James Barkway, Nurseryman, Quebec Road, East Dereham, Descriptive Catalogue of Roses.” All the best sorts are enumerated, and the amateur will be able to make suitable selections from it for every purpose.—“S. L. Worth, 77, Regent Street, London, Patent Aphid Brush.” An ingenious invention for removing fly from the shoots of plants, and will be found very useful to those who possess plants infested with these little marauders, which are not in a convenient position to smoke. Hand-picking is generally recommended under such circumstances, but many amateurs object to soiling their fingers by the operation, and unless care is used, the tender shoots are likely to get a damaging pinch. But these little double brushes are so constructed that they catch hold of the twig, branch, or shoot, and by drawing them along, they remove every insect, while the soft hair does not injure the most tender sprig; we can, therefore, recommend them, as they do their work expeditiously and effectually.—“Hooper and Co., Central Avenue, Covent Garden Market, Autumn Catalogue of Dutch, Cape, and other Flowering Bulbs.” A fine list, containing, besides many useful inventions, among which is a capital trap for earwigs, likely to prove a great boon

to growers of dahlias, etc.—“William Wood and Son, Maresfield, near Uckfield, Sussex. Select List of Dutch Flower Roots.” A well got up list, and one in which the amateur may confide.—“General Catalogue of Ornamental Trees and Shrubs.” Will be especially useful to those who contemplate autumn planting.—“Descriptive Catalogue of Roses.” A large list of all the best old and new sorts.—“John Keynes, Castle Street Nursery, Salisbury. Descriptive Catalogue of Dahlias.” Mr. Keynes has acquired such a reputation as a dahlia grower, that the amateur needs no other recommendation of the excellence of the sorts he offers.—“J. C. Padman, Providence Nurseries, Boston Spa, near Tadcaster. Select Lists of Bulbs, Hardy Ferns, and Roses.” A full and useful list.—“Pridham and Sanders, North End, Croydon, and Sion Nursery, White Horse Road. Catalogue of Bulbs.” A plain, practical, useful list, especially suited to the wants of amateurs.—“C. Grimby, Albion Nursery, Stoke Newington, London. Catalogue of Bulbs.” A neat, concise, handy list, containing a good selection of varieties.—“Butler and McCulloch, South Row, Covent Garden Market. Autumn Catalogue of Dutch and Cape Flowering Bulbs.” A carefully-prepared list, with excellent cultural directions, and other desirable information.—“Barr and Sugden, 12, King Street, Covent Garden. Floral Guide to Winter and Spring Gardening.” An admirable guide to the best way of growing fine collections of flowers during the winter and spring months. There are plain instructions for growing hyacinths, either as window, conservatory, or border plants, and excellent directions for the cultivation of every other kind of bulb. It is a very trustworthy and desirable guide, and should be in the possession of every amateur.

**TWO DOZEN ROSES.**—*Paul Ricaut* wishes for “a list of twenty-four H. P. roses of first-class excellence, hardy constitution, free in growing, profuse bloomers, and that will form handsome shaped heads grown as half standards.” We have published many such lists, and if Paul Ricaut will refer back he will obtain useful hints on selecting a few choice roses. But when such a query as this comes to hand, we never refer in order to see what we have recommended before, and hence all our lists differ, and as new varieties take good places we introduce them, so as always to bring the selections up to the latest date. Our

selection of twenty-four for this season's planting is as follows:—*Light*: Madame Vidot, Souvenir de la Reine d'Angleterre, Madame Rivers, Anna Alexieff, Madame Domage, Alex. Belfroy. *Medium*: General Washington, Jules Margottin, Belle de Bourg la Reine, Madame Knorr, Mademoiselle Haiman, Senateur Vaisse, Victor Verdier. *Dark*: Beauty of Waltham, Charles Lefebvre, Francis Arago, Louis XIV., Francois Laeharine, General Jacqueminot, Lord Raglan, Madame Furtado, Madame Pauline Villot, Prince Leon, Ornement des Jardins.

**LAPAGERIA ROSEA, FUCHSIAS DROPPING THEIR BLOOMS.**—Like many others as ignorant of its requirements as myself, I was tempted last February to buy a tiny plant of *Lapageria rosea*. I was told that it would grow almost as rapidly as a convolvulus, but alas, it threw out only one leaf in two months. In April I read with great interest your directions for its culture, and devised a mode of carrying them out on a smaller scale, which some of your readers may be glad to try. I placed my plant in its pot upon an inverted empty pot, set in a large saucer. On a shelf just above I placed a hyacinth glass filled with water. A strip of cloth, half in the water, half hanging down, the end lying on the earth of my *Lapageria* pot, acts as a syphon, carrying down a constant tiny stream of water, which drains off through the inverted pot into the saucer below. The hyacinth glass requires filling and the same emptying about every other day. Since this has been done I have repotted the plant, and find that its roots are grown large, strong, and healthy. The plant looks well, but very few leaves have yet grown, and it has not shot up at all. It is in a very small conservatory, very sunny and airy. I have no blinds, window and door generally open. Pelargoniums bloom in it most splendidly, leading me to think that it is a mistake ever to shade them from the sun. My fuchsias do not succeed at all. I should be very thankful for any information on their culture. I have tried them in a small house heated for achimenes and gloxinias, in a coolerinery, and out of doors. The leaves lose their colour and drop off, and the flowers, though abundant, are small, and often imperfect. The flowers of Rose of Castile crack and wither. Why is it?—*Constant Reader*. [As the *Lapageria* has made plenty of healthy roots, it will probably throw up a strong shoot by and by, but you will never do much with it, we fear, in a pot. Still we would

not discourage you, and hope hereafter to hear more about it. Pelargoniums rejoice in sunshine, and it is only for delicately-coloured varieties that shading is necessary. It is at exhibitions that the nice points of cultivation are tested, and we should never expect an exhibitor to win with varieties of light and delicate colours that had never been shaded. We cannot tell why it is your fuchsias fail; we can give you this general advice. Grow only young plants, pot them in a mixture of two parts cocconut dust, one part yellow loam, and one part rotting dung, the whole thoroughly blended. When we hear of fuchsias dropping their blooms, we always think the drainage must be defective, or that the plants do not get enough water. We grow all the varieties of fuchsia we can get hold of, and they are scattered about the place under all sorts of conditions, some in the lean-to, where it is very warm, some in a house called the "corner-shop," where they are very cold, and a large number out of doors, where they are burnt, buffeted, and drenched, and yet they all bloom profusely, and have very little attention. It surely must all depend on being properly potted in the first instance.]

**Roses.**—Will you say what sort of manure ought to be given to roses in a clayey loam, where stable-dung is scarce. I have an abundant supply of vegetable mould from the refuse of the garden, etc., and lime, and of course can procure guano or bone-dust. Is salt good for roses? I want to make a long bed for roses to have three rows, that in centre to consist of moderate-sized standards, and the outer rows of low standards or dwarfs, or plants on own roots, or on Manetti. What ought to be the width of the bed, and at what distance in the row ought the plants to stand? In your vol. for 1862 (vol. v., page 142), you give directions for shortening long standards by notching in October, etc. Would it not be a good plan to make the notch some time before the planting, so as to allow the callus to form? Last year I notched, or rather took a ring of bark off of a twig of the Rose Unique, and when the callus was formed, I made a slip of it. It struck, and is doing well.—*No Name*. [One of the best manures for roses is a mixture of guano and wood-ashes spread on the surface of the soil in April at the rate of about a quart for every tree. Another good mixture is soot and salt used in the same way. Bone-dust and guano are both good to

dig in and mix with the soil at the time of planting, but we should prefer half-inch bones to bone-dust, and if dug in and thoroughly mixed with the soil would be lasting in their effects. But there is nothing to equal stable manure for roses. In inducing the hard wood of a rose to make roots, undoubtedly the ringing process would be best, and to be done early. The reference you make is to a record of the doing of it when the summer had gone by. Your long bed should be five feet wide, the half standards to occupy the centre, and the dwarfs to be eighteen inches from them, which will place the dwarfs one foot from the outside, which is enough if they are kept closely pruned. Put the standards two feet apart, and the dwarfs eighteen inches. If they want more room in a year or two, replant them; this will be better than planting very far apart at first.]

**CLIMBERS FOR GREENHOUSE.**—*Lady Subscriber.*—The best creepers for your cool house in a cold part of Cheshire will be *Clematis lanuginosa*, *azurea*, and *florida*, *Magnolia grandiflora*, *Ceanothus azureus*, *Passifloraerulea*, *Aristolochia siphon*, *Wistaria sinensis*, *Cobea scandens*, *Lophospermum atrosanguineum*, *Jasminum nudiflorum*. These will all require sunny positions. For a shady wall you may have *Stauntonia latifolia*, and a selection of gold and silver-leaved ivies. We cannot advise you how to keep the frost out of the balcony. Perhaps a large stone bottle filled frequently with boiling water, may answer in frosty weather. Gardeners often keep the frost out of frames by burning candles in them.

**BROCCOLIS ALL THE YEAR ROUND.**—I have seen several hints in the *FLORAL WORLD* on obtaining a succession of broccolis, and I have nearly succeeded in securing them the whole year round. But as I have not quite succeeded, will you once more state what you consider the best routine, and please say what is the best sort to make sure of in August and September?—*J. R. P.* [First of all, it may be as well to state that our table has been supplied with nice heads of Purple Cape since the last week of July, and there is nothing better for autumn use. To secure a constant succession of broccolis, sow every three weeks from the middle of March to the middle of July. The first sowing should be Snow's, and Purple Sprouting to come in the next spring. The second sowing to be Brimstone, Elletson's, Purple Cape, and Gran-

ger's. The third sowing, Granger's, Snow's, Conning's, and Tamworth. Early in May sow Walcheren, Granger's, and Barking. End of May sow Walcheren and Purple Cape. June and July sowings to be Walcheren only.]

**GARDEN VERMIN.**—*Mrs. A. Winderwath.*—Your letter came too late for a full reply. We know of no better way to deal with thrips than to fumigate with tobacco several times at intervals of a few days, and use the syringe freely after each fumigation. Thrips and red spider are quite distinct. If done very carefully, the pampas grasses may be potted at once, and they must have large pots or tubs. Cactuses may be retarded in a cool atmosphere; they would not give a second bloom this season if disbudded. We shall be glad of your notes on *Campanula pyramidalis*.

**VARIOUS.**—*One Desirous*, etc.—Some of the plants are plunged in pots, and some without pots, according as either way may be most convenient or to gain room. —*A. B. C.*—There is no known method of getting rid of plaintain but spudding it out. We have known cases where it was necessary to strip off the lawn, trench the ground, and lay down new turf in order to get rid of this pest, and in other cases we have seen it defy all moderate measures, and at last disappear entirely no one knew how. No doubt frequent mowing and rolling tends very much to keep it in check; and it will be observed that whereas plaintain generally grows abundantly beside field paths and in neglected corners, tilled lands and grass meadows are generally free of it.—*H. R. C.*—Your pines are gross through overfeeding, and liquid manure will make them worse. We do not like the use of any kind of liquid manure for pines as a rule; if any is required, clear soot water is the best. —*J. H. Mason.*—The weed infesting your ground is the corn-field horsetail, *Equisetum arvense*, a very troublesome pest, common to damp grounds, and the appearance of which is usually an indication that the land needs draining.—*M. G.*—Sow the seeds in peat, and place them on a gentle heat. Australian seeds are generally dead by the time they reach England in inexperienced hands.—*M. B.* *Oxalis corniculata rubra.*—*T. B. Pennant.*—The hairy plant with blue flowers sent in the box is *Echium vulgare*. But you speak of one flower at the top of the stem which we do not understand.—*F. L.*—Looks like *Epilobium angustifolium*, but we cannot speak with certainty from a crushed fragment an inch long.

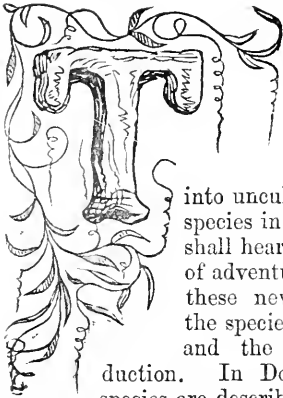
THE  
FLORAL WORLD

AND

GARDEN GUIDE.

NOVEMBER, 1863.

CULTURE OF CLIANTHUS.



THE Glory Pea of Australia and New Zealand is one of the grandest ornaments of the sandy wastes and barren hillsides of those interesting countries, and among the first objects to arrest the attention and claim the admiration of new settlers when they make excursions

into uncultivated districts. There are probably many species in the interiors of those countries of which we shall hear accounts, and obtain specimens as the spirit of adventure brings to light the botanical resources of these new homes of the Anglo-Saxon race. None of the species of Clianthus have been long in this country, and the best of them is quite a recent introduction. In Don's "Dichlamydeous Plants" (1832), three species are described under the generic name *Donia*, namely,

*Donia punicea*, *D. speciosa*, and *D. formosa*, and that they were then not known in cultivation is proved by the remark, "Should ever any of the species be introduced to our gardens we should recommend," etc. etc. The genus was first named in honour of Mr. George Don, of Forfar, and was afterwards renamed from the Greek *Kleios*, glory, and *anthos*, a flower. The Clianthus is one of the showiest members of the great natural order *Leguminosae*, and closely resembles the *Sutherlandia* of the Cape, and the *Kennedyia* of Australia, both in structure, habit, and appearance. The species of Clianthus known include the three just cited from Don, and two others named respectively *carneus* and *magnificus*. The *D. speciosa* of Don is the species now known as *C. Dampieri*. They are all herbaceous or sub-shrubby, evergreen if sufficiently protected during winter, but deciduous if exposed to a low temperature; but when they become deciduous they are in danger of perishing. *C. carneus* is a free-growing shrubby species from the Philippine Islands, producing flesh coloured flowers. *C. puniceus* is also shrubby, and nearly hardy. It is a native of New Zealand, and was introduced in 1832. It produces gorgeous crimson flowers, and is a very noble object when in bloom. *C. formosa* is an herbaceous species, of procumbent habit, native of the north-

west coast of Australia. The species which claims pre-eminence for beauty, the *speciosa* of Don, now known as *C. Dampieri*, originally discovered by Dampier in 1699, introduced to this country in 1850, and flowered for the first time in March, 1858, by Messrs. Veitch, of King's Road, Chelsea, and figured in the FLORAL WORLD in August of the same year. The species of *Clianthus* are not attractive except when in bloom, their pinnated leaves are dull in colour, villous or pubescent; and in the case of *C. Dampieri* are positively dingy, as if covered with dust. Their habit of growth, too, is generally without grace, and there is a special need for the exercise of skill on the part of the cultivator to make the plants as presentable as possible. When grown in a pot *C. puniceus* makes a tolerably compact shrub, but has no beauty when out of bloom. But as it is so nearly hardy, a very good place for it is on a wall facing south in a very dry position, where it will require some protection during frosty weather. Instances of success attained in the cultivation of this plant out of doors have been several times detailed in the pages of this work, and recently (May, 1863), we heard that the Rev. F. Flemyng had had one out of doors for years in the highlands of Dumbartonshire, where it blossoms beautifully, and last winter was only once protected with a mat at night. *C. Dampieri* is as hardy as *puniceus*, but has not yet been much grown out of doors. But as it has ceased to be a rarity, and its culture is now thoroughly understood, it may be classed with half hardy plants suitable for walls, and must be considered one of the grandest subjects known for such purposes. All these plants are found growing on dry sandy soils, and the cultivator will therefore understand that in every case a very complete drainage and a soil consisting of loam, peat, sand, and small nodules of charcoal will be most suitable for them. During winter they must have but little or no water, be kept well aired during fine weather, and have no encouragement to grow; in fact, starving is the only safe treatment then, as the slightest tendency to grossness will result in disease, and perhaps death. But with these precautions there will be found no difficulty in growing any of the species, and the routine to be described for the treatment of *C. Dampieri* will be found applicable to all, except in such few particulars as will be determined by the habits of the species.

*Culture of C. Dampieri.*—If seed cannot be obtained, cuttings of young shoots in spring may be struck under bell-glasses, in sand, on a heat of 70°. It will be necessary to guard against damp, hence the glasses should be taken off daily and dried before being replaced; and as soon as the cuttings have roots they should be potted separately in 60-sized pots, in peat two parts, and silver sand one part, with plenty of drainage, and have every encouragement to make a quick growth, with plenty of light and air after they have been potted a week. But the best plan to raise stock is by sowing seeds. These will not always germinate unless steeped for twenty-four hours in water, at a temperature of 100°. In a propagating-house this can be easily done by putting a pan over a tank; where no such convenience exists, it must be attempted by means of a vessel placed beside a fire. We have raised seeds without steeping, by burying them a few days in the plunging material of a pine pit. After the steeping sow them singly in 60-sized pots, in peat one part, and silver sand one part. The reason for sowing singly must be understood by the cultivator. If this plant is shifted frequently to larger



and larger pots, it will be sure to suffer injury at each shift by having its roots wounded. The roots are brittle, and as they always run down among the crocks the plant cannot well be shifted with safety after it has attained to any considerable size. Therefore we begin with seeds in 60-sized pots, and from these make one shift to 48's, or put them direct from the 60's to their blooming pots, or plant them in a border.

The best season to sow the seeds for those having command of all needful appliances is the month of January, which gives the cultivator a long season to grow a fine specimen for blooming the next year. Those who cannot command heat to start the seed and to grow the plants on until the season is sufficiently advanced to allow of hardy treatment had best not sow till April, when the seed having been steeped twenty-four hours may be sown in pots, and the pots shut up close in a frame fully exposed to the sun. When the seedlings are up they must be kept growing by generous treatment, and as soon as they have advanced somewhat beyond the seed leaves they must be syringed on fine mornings regularly, and have as much air as can be allowed with safety. As soon as they have filled their pots with roots shift to the next size, or put in blooming pots at once.

*Summer Culture.*—Suppose a fine specimen is required, then we should use a pot not less than fifteen inches diameter, and prepare it by arranging the drainage with the greatest care three inches deep. The best soil for the purpose is a mixture of turfy yellow loam three parts, turfy peat two parts, silver sand one part, and broken charcoal one part. This well chopped over will be a light but nourishing material, and it will never be retentive of moisture. If the loam is of that soft texture called by gardeners "silky," and contains plenty of fibre, four parts of the loam may be used, and the peat may be dispensed with. The best place for the pot is in a cool conservatory border, or a border under a wall facing south-east. When we say "in" the border, we mean that the pot should be plunged, with some large hollow tiles underneath it to prevent lodgement of water. Or the plant may be planted in the border, in which case it must be of a similar soil to that recommended for pot culture, and be thoroughly well drained, for anything approaching to stagnant damp is death to the *Clianthus*. If the specimen is to be flowered in a pot, place the pot so that it will be sunk in the soil of the border two-thirds of its depth, then fill in the soil and press firm to within a sufficient distance of the rim of the pot to leave room for the ball of roots. Turn the plant up and transfer carefully to the large pot, fill in firmly round the ball, and give good watering. As soon as by its new growth it becomes evident it has "taken hold" of the soil in the pot, give air frequently, and during the height of summer have air on night and day. Train the growth right and left on a flat trellis a foot and a half from the glass, syringe frequently, and when the plant has made some progress give it weak manure water once a week till the end of September, and then cease; and after that date reduce the supplies of water, so as to get the roots comparatively dry. The season is now ended, the plant will grow no more, and we enter upon the

*Winter Culture*—the principal point in which is to guard against damp. As soon as the plant is fairly at rest cut back the growth moderately, so as to have if possible all the rods of equal length, but do not cut severely. This process will help to ripen the wood. Further help

must be rendered by giving as much air as possible, keeping the roots nearly dry, keeping the house cool, and protecting by means of fire only sufficient to keep out frost, and occasionally dispel damp. If the soil in the pot has got at all pasty, remove the top surface to the depth of an inch or more, and replace it with clean silver sand. This will prevent any fogging at the collar.

*Management for Blooming.*—The cultivator will have to be very cautious that the plant is not induced to commence growth too early in the spring. It must have very little water till it has made a fair start, but after that it may have plenty; and as it advances into bloom the growth must be carefully trained, the leaves must be frequently syringed, and it must have further aid from weak manure water. When in bloom it will repay all the care that has been bestowed upon it; a fine specimen is one of the grandest sights possible among flowering plants, and *Clianthus Dampieri* may fairly rank next to the most lovely exotic orchids in point of beauty and interest. The flowers come in large drooping clusters, they are truly papilionaceous but extravagant in outline. The standard or vexillum, in common with the other parts of the flower, is an intensely vivid crimson colour, but has a deep black blotch on its lower part, the wings are narrow and in shape like elephant's tusks, and the keel is prolonged and crescent-shaped, and about the same length below as the standard is above. On a well-grown plant the flowers will measure four and a half inches in length from the summit of the standard to the termination of the keel. *Clianthus Dampieri*, like its predecessor *puniceus*, is regarded as a perennial, and that no doubt correctly. But the finest specimen ever exhibited, and which was grown by Messrs. E. G. Henderson, of St. John's Wood, perished after its first season of bloom, after having created a sensation among the admirers of fine plants as an extraordinarily splendid object for several months in succession.

*Enemies.*—All the species of *Clianthus* are subject to attacks of thrips and red spider. It is for this reason chiefly we recommend the free use of the syringe as the plant is advancing into bloom, and after the bloom is over. The only way to prevent attacks of these vermin is to grow the plants quickly, they are then not likely to be troubled. But if the cultivator finds it impossible to prevent red spider, our advice is, burn the old plants as soon as they have flowered, and keep up an annual succession of plants from seed.

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## ROSE GOSSIP.—No. V.

SHOWS FROM AN AMATEUR POINT OF VIEW.

THESE are two methods of writing upon any subject. The one is to state opinions and information in practical and appropriate language, and to throw out suggestions for the consideration of others in a frank and kindly spirit. The other is to put forth ideas as original in long-winded phraseology, ideas that have appeared before, and in grandiloquent terms to announce as discoveries principles which the veriest tyro would be ashamed not to know. It is easy to decide to which of these two systems a communication upon Roses, signed "G. S.," may be properly referred. The substance of that paper has not only appeared many times in the

FLORAL WORLD itself, but in numerous other places; nor was it surely necessary to inform the readers of that miscellany how to grow roses in a "delightful situation, five miles from the Bank," with all the other accessories described as pertaining to "S. G.'s" garden! The mystery would have been "how not" to grow them under such circumstances? It is reasonable to suppose, too, that they were not ignorant of the colour and character of *Senateur Vaisse* and other varieties enumerated by the writer, considering they have been fully described several times during the past two years, nor of the value of *cleanliness* and attention as important elements of cultural success. Had "G. S." been able to enlighten them a little from his own practice, on the methods of overcoming difficulties such as inferior soil, polluted atmosphere, and want of space, it would have been a different matter. However, as the writer of the article upon "Protection, etc.," and I believe of most others upon suburban roses, except those by Mr. Hibberd himself, I must beg to inform the would-be facetious "G. S." that he is not imbued with the true spirit of a rose lover (and I think other rosarians will agree with me in this), or he would not attempt heavy jocularly at protecting by any means a tender variety, raised perhaps with patient solicitude and skill, from a puny cutting to a noble bush. It would appear, however, it is to the *shape* of the protecting medium "G. S." demurs. I can well believe that the sight of "an inverted grocer's sugar bag" in any material would be disagreeably suggestive of times when he was evidently more familiar with Guy Fawkeses than grammar. But as I do not wish to turn the pages of the FLORAL WORLD into a controversial arena I will refrain from further comment on "G. S.'s" lucubration, recommending that the next time he is smitten with the *cacoëthes scribendi* he should be more liberal of original ideas, and less so of adjectives, and return to the subject of this paper.

Now that rose shows for the season have gone by, it may not be amiss to examine whether such exhibitions

exercise all the influence they ought upon the progress of the flower, or realize the good effects they might for the benefit of cultivators, professional or amateur. It cannot be denied that a rose show is one of the most fascinating spectacles a lover of flowers can enjoy; nevertheless it is by no means (as it is too often made), the best place for amateurs to form opinions, or decide upon selections. Being surrounded by many adventitious circumstances, the appearance of a rose in the stand is no criterion as to its value in the rosery. As a test it is far inferior to the actual grounds of a first-rate nursery, where the plants are seen in their natural characteristics, with their deficiencies or excellencies alike patent to observation.

One of the most prominent failings in the present method of showing is that it affords no means of ascertaining the habit of growth, or the real character of the flower. A few leaves are dexterously plugged out into a graceful form, the blooms are drawn together if more than one, so as to conceal defective centres, the whole resting upon a groundwork of fresh moss, which shows off *colour* and *size* to the best advantage, enabling also the trickily disposed to interpolate foliage without detection. Indeed, *colour* and *size* are the only features really displayed by this system of preparing the stands, and to them other points of a higher order have of late been unhesitatingly sacrificed. To judge the character of varieties accurately they should be exhibited in phials of water, or some other transparent vessels. In this age of decorative ingenuity, there could be little difficulty in inventing some artistic and appropriate design. They should be only *single stems*, with foliage, buds, and blossoms *exactly as cut from the tree*. Connoisseurs and cultivators would then see what they were about, for the habit of growth, and style of wood and foliage, would inform the experienced of the probable qualities of varieties from their affinity to kinds already known. Such a plan would be especially valuable with respect to

the novelties. It would, moreover, be seen whether they carried their flowers firmly up, an important habit in actual culture, the want of which cannot be detected in the stand.

Again, the uninitiated must not imagine that prizes indicate the grade of merit and skill among trade exhibitors, and consequent value of their plants. Some of the largest and most celebrated firms, as Messrs. Wood and Rivers, never enter into the lists, and others of note are not always in a position to cut for exhibition at a precise time, though at others they could perhaps surpass the takers of prizes. An illustration of this fell under my own notice a few days before the Crystal Palace Show. In Messrs. Fraser's rose ground I observed several blooms of this year's novelties, much finer in quality than on the "tables" at the Palace, and some which were not there at all. Rose grounds are very much influenced by the nature of the seasons, whether wet or dry, early or late, according to soil and locality. It requires a very large number of plants to be able to cut a sufficient number of perfect blooms on any given day, and this by the way is the reason Mr. Hedge, of Colchester, carries off so many prizes in the classes for amateurs. He has an immense stock from which to furnish his boxes, and his success should encourage amateurs to plant roses in plenty. One thing is certain, that in the long run the most prizes will go to the largest collections.

The principles upon which awards are allotted are likewise open to objection, particularly as to roses shown in pots. At present a few possessors of huge specimens, which must be of old varieties to attain the requisite size, carry all before them year after year, and show after show. It ought to be a maxim as unalterable as the laws of the Medes and Persians, that no plant should be adjudged a prize a *second* time during the *same* season. This arrangement would widen the area of competition, and afford a chance of success to the owners of smaller specimens. By offering a series of rewards, too, for plants in

smaller pots, new kinds would be sooner brought under experiment and retained or discarded, according to merit, relieving the catalogues of a host of unworthy names, and the growers of incumbrances to valuable space. Moreover, the "schedules" might be extended and improved in the interests and for the encouragement of amateurs, upon whom, after all, the support of floriculture mainly depends. I would venture to suggest that a section be established at our great metropolitan shows specially for amateurs residing in the vicinity of "Smoketown," say within four miles of St. Paul's on the one side, and Whitehall on the other. The classes should consist of 24's, 18's, and 12's for those keeping, and those not keeping a gardener, respectively. It is scarcely possible to estimate the impetus that would be given thereby to rose growing in localities where it is at present seldom attempted.

It has often been a matter of surprise to me that the managers of the Crystal Palace have never instituted an *autumnal rose show*, on a similar scale of importance to that in the summer. There are many beautiful roses only in perfection in the autumn, which are in consequence rarely seen. There are others which display an intensity of colour, and precision of contour at that season of the year, far surpassing in beauty their summer bloom. Besides, such an exhibition would be a boon to less experienced cultivators by bringing under notice late blooming kinds, enabling them to select those sorts capable of affording the greatest amount of flowers from a limited rosery. It would furthermore give to the unsuccessful at earlier shows an opportunity of recovering lost laurels.

However, space warns me to conclude these remarks, which are the result of viewing the subject simply as an amateur. They are not dogmatically laid down, but intended as suggestions for further popularizing and extending a taste for cultivating "England's national emblem, and Flora's choicest gem."

W. D. PRIOR.

Homerton, Oct. 1.

## FORCING FLOWERS.

THE forcing of flowers, in the correct acceptance of the term, is the production of blossoms at a season quite distinct from that in which the plants would bring them forth if left to natural influences, and in the successful working, requires—First, a full and decided maturity of all the various organs of the plant. This infers a previous development at least perfectly healthy, if not luxuriant; for it will be found that the beauty of the forced flowers depends very much on the growth of the foregoing season, and will be rich or meagre, all other circumstances being the same, in an exact proportion to its vigour. Secondly, the plants to be operated on should be thoroughly established before their introduction to an elevated atmosphere, that they may have acquired the means of immediately supplying the necessary aliment to meet the demands of an increased circulation and accesion of new parts. There is a great difference even in the limited number of plants that are usually subject to this treatment, in the time required to effect a perfect re-establishment: some of them may be obtained in a proper state in a few weeks, while others will not bear to be forced until they have received a year's preparation. The first class consists of bulbous-rooted and herbaceous plants, which form an entirely new set of organs in each season; and the latter includes roses, rhododendrons, and other hard-wooded plants that have a more persistent system. These are absolute in requiring to be potted at least six months, so as to allow them to form a season's roots before being forced.

The next essential point of management lies in the manner of applying the necessary heat, and on it the success of the whole may be said to hinge; for whatever care or skill may have been expended, any misapplication here will render it all void. The increase should be brought about in a gradual manner, so as to resemble as nearly as possible the ad-

vances of spring, whose functions it is intended to anticipate. The absurd practice, so prevalent a few years since, of removing a plant from the open air in the depth of winter to a temperature of some 55° or 60°, and of which some traces even yet remain, must appear preposterous when we consider the object sought by the change. Was ever so great a difference known to occur in a day and a night at an part of the year, or any portion of the world? This, or whatever else is so violently opposed to Nature's laws, must be erroneous in practice. The temperature above-mentioned (55° or 60°), is that in which most plants will expand their flowers; and to reach it from the average temperature of our winters, at least two intermediate stages are necessary. The first, of about 35°, is usually afforded by a cold frame; and the next, of 45°, or greenhouse temperature. After a suitable stay in each of these climates, which will vary with the nature of the plants—say, for the soft-wooded or herbaceous class ten days or a fortnight, and for the others a little longer, they may be safely introduced to the highest temperature. In the ordinary and proper development of the organs of a plant the action commences with the roots, and proceeds gradually upwards, as displayed in the bursting of the leaf, the formation and expanding of the flower-bud, and finally, the perfection of the seed. This is the natural course of the vital energy, but when the plant is placed at once into a comparatively high temperature the action commences in the stem or above the roots, an abortive production of leaves or flower-buds is made, which, from the inaction of the roots and consequent want of food, after lingering for a time, necessarily wither and die. Hence the propriety of a gradual application of heat, that the excitement may begin at the proper place, and be continuously increased until it reaches the perfecting point.

The only other matter of conse-

quence connected with the subject, relates to the proper supply of water. This, as part of the stimulative system adopted in forcing, should be subject to the same rules which regulate the supply of heat. It should be given in the same limited manner at first, and increased with the increase of temperature resulting in a full supply every day at the period of blooming. It is only necessary to add that a

considerable diminution of both heat and moisture will be required immediately after the expansion of the flowers, in order to prolong their existence and preserve their brilliancy. This is easily effected by the usual plan of removing them to a cooler place, where their loveliness will be more enjoyable than in the close humid atmosphere of a forcing-house. ED.

### FRUIT CULTURE.—THE STRAWBERRY.

IN the paper on Strawberry culture published in the April number of the FLORAL WORLD, we enumerated all the important points connected with the routine culture of out-door crops, and promising further notes on forcing, the selection of varieties, etc., we now redeem that promise, and for convenience of reference group the several departments of the subject requiring to be treated under separate heads.

**STRAWBERRIES IN POTS.**—Strawberries are grown in pots with great success by many cultivators who have no means for forcing them, as the term *forcing* is generally understood. The advantages of pot culture are that a crop can be secured considerably earlier than in the open ground, by the help of a common frame, or in a peach-house or unheated orchard-house, or, in fact, by the help of glass of any kind, however inelegant, provided it affords some shelter, and admits an abundance of light and air. We will first describe a method we have ourselves pursued, for the purpose of proving and comparing a number of distinct varieties when we have had no room to make plantations of them. We secured well-rooted runners, which had been pegged down in small pots early in the season; and, as soon as the pots were filled with roots, the runners were separated from the parent plants, and at once put into fruiting pots. As we know of but one way to pot strawberries, we will describe it here once for all; so that, whenever potting is referred to, it

may be understood that we do not mean shifting on to larger and larger sizes, but placing them as soon as they are fairly rooted in the pots in which they are to fruit. For all ordinary purposes six-inch pots are large enough, but in some cases nine-inch pots may be used, in order to secure a late crop of large berries, as those in the large pots will not fruit so early as the others. The stuff for potting should consist of one-third rotten dung, and the other two-thirds stiff loam, with plenty of fibre in it. Whatever the soil of the place, the cultivator must endeavour to prepare a mixture as nearly as possible answering this general description. In sandy or chalky districts, the clearings of ponds and ditches, turf from roadsides, and other similarly nourishing and tenacious materials, may generally be had, and in clay countries turf and dung will mellow the staple; and, if need be, a sixth part of broken brick, or charcoal, or grit from the sifted sweepings of gravel walks, may be added to prevent the soil in the pots from becoming a cement, for before we have done with it we intend to have it well hammered. We have had so much to do with tenacious clays that we never fail to use as much as we dare in all composts, and in potting strawberries we usually make the compost thus:—One part rotten dung from a cucumber or melon pit, in which the crop has been completed. This is generally in a buttery state, and the fibre completely broken down. One part rotted turf, which has in the

first instance, been taken in a thin slice off a loamy pasture, and subsequently stacked up till the whole mass has become like an elastic felt; one part clay which has been a long time exposed to the atmosphere, and the top crust of which has pulverized into small crumbs, and these top crumbs to be preferred to the stiff material underneath. Lastly, half a part of bricks, tiles, or charred rubbish, broken to the size of horse beans. This mixture is well chopped over, and used in a sufficiently moist state to become solid with pressure, yet is not sticky to the fingers; better a little too dry than a little too wet.

The next necessity is a wooden rammer. The best rammer we ever used was the stump of an old box tree burnt at one end into a round knob, and at the other made neater for handling by a binding of tarred cord. The pots, the compost, the rammer, and the plants being ready, we give a lad the task of putting in the crocks and filling the pots two-thirds full of soil. The crocking must be done with care, for, if the drainage is not perfect, the plants will make no return. We prefer two inches of drainage, but can do with one good hollow crock fitting nicely over the hole, hollow side downwards. We take one of these pots, partially filled with the compost, and ram the soil quite hard. The exact amount of soil to allow room for the ball of roots must be learnt by experience, and about that there will be no difficulty. The plant is turned out upon the hard bed of soil thus formed in the pot, and the pot is filled in with the left hand, while with the right the rammer is plied all round till the plant is at last embedded in a sort of earthen wall, and there will be in the six-inch pot as much soil as is usually put in one double the size.

Though to tell this much has occupied some space, the doing of it is a very simple matter, and it is almost the only serious task in the whole routine of growing a crop of strawberries in pots. When potted the plants are all set in a frame, liberally sprinkled with water, but not to wet the earth in the pots quite through,

and are then shut up and kept shaded for a few days. The object of shutting them close is to prevent them feeling any exhaustion by the potting process, a very important matter as regards the crop ultimately, for I have found by experience that plants that have never felt a check gave much finer fruit than those that have been carelessly dealt with in some part of their growing career. If showery weather follows a few days after the potting, take the lights off and expose the plants to it; the soil in the pots will thus get saturated much more effectually than can be done by means of the waterpot, and in little more than a week from the time of potting the plants will show, by their improving appearance at the crown, that the roots have begun to push into the soil that was rammed around them. After ten to fourteen days' stay in the frame, remove the pots to an open position where all the winds of heaven will blow upon them. The best flooring is one made of laths or spars placed an inch apart, and kept firm by means of cross pieces. Worms will never get into the pots while they stand on such an open bottom, neither will the roots work through the bottoms of the pots. When lacking a convenience of this sort we have plunged them in a bed of coal-ashes or cocoa-nut dust, in which position they do not so frequently require water; but the other method is preferable, the heat of the sun on the pots—provided they never suffer for want of water—causes the formation of plump crowns, and without plump crowns there will be no plump fruit.

In a very short time after the potting the leaves of the plants will begin to meet across, and weeds will make their appearance amongst them. As soon as the leaves of any two plants touch, the whole stock should be looked over, all weeds removed from the pots, and more room allowed. If the weather is hot and dry mere watering will not suffice to keep them in health, they must have frequent syringing underneath the foliage to keep down red spider, and to encourage a vigorous growth. As we sup-

pose the pots to be exposed to the sun, care must be taken that the roots are not scorched. This will happen if the weather is excessively hot and dry, as in 1863 for instance, or if the watering is neglected. An occasional tap on the pots with the knuckle before giving water will, by the sound, tell the cultivator what is the state of the roots; if the sound has anything of a "ring" in it, the roots may be in danger; in which case mulch with dead leaves, tan, or straw, or plunge in coal-ashes. But there will be no fear of scorching till the pots are full of roots, and with good management it is an evil the least of any to be feared.

Some time about the middle of October, the plants should be put in winter quarters, and to prevent injury to the roots by frost, the best way is to plunge them. Now, here mischief is just possible, for plunge-beds are too often made in a very careless way, so that they are water-logged all winter. If the plunge-bed has a rubble bottom and a drain to carry off water, it will do for the strawberries; if it is merely a bed of ashes on a bottom of undrained clay, then adopt the plan recommended by Mr. M'Ewen in his capital treatise on Strawberry Culture, and which he describes thus:—"Have artificial banks formed, at an angle of about 40°, and in these banks form shelves sufficiently wide apart to prevent one row from shading the other. Such banks gather a vast amount of heat by day, this, together with the dews by night, aided by syringing, tends to ripen the plants thoroughly." Generally from the beginning of September till taken in-doors, the plants will take care of themselves as to watering, but they must have water if there is a long continuance of dry weather, and during long-continued rains it will be well to shelter them with spare lights set on large inverted pots, or to lay the plants on their sides.

It is a question now what is to be done with them. They may be brought forward early without the aid of heat, or they may be forced in the proper sense of that term. We have several times fruited pairs

of all the varieties we could procure, and a very agreeable pastime it has proved, independent of the advantage of a large supply of fruit, and the making acquaintance with their habits and comparative excellencies. The simplest method was found to be to get the plants established in pots as first described, and early in December remove them to a bed of earth in a lean-to with low roof, facing full south.\* The bed was, in the first instance, covered with six inches of half-rotten dung, and on this the pots were placed sufficiently far apart that the leaves could not meet, and where they would have thorough ventilation from front shutters opening the whole length of the house. They require but little water till they begin to make new growth at the turn of the year; but, as soon as the season has sufficiently advanced to cause a new growth from the crowns, they must have abundance. Early in March they are showing bloom; there is then plenty of sunshine, and during bright mornings they can be well aired. Now is seen the advantage of bedding them on dung, for by this time they have rooted through the pots into it, and the rich green hue and immense size of the leaves foretell that, if they fruit at all, they will fruit nobly. There must be plenty of air given from the time the blooms expand till the fruit is gathered, but the two most critical periods are when the bloom is fully expanded and when the berries are colouring. At such times air and sunshine are most essential to their well-doing, and the first must be proportioned to the second, the more sun the more air, and *vice versa*. Water overhead at all times, except at these two critical periods; but, while the blossoms are in their full beauty, water without a rose on the pot, pouring the water on the soil only. As soon as there is a good show of fruit water overhead, and if the later blooms are injured by it, no matter: you have a crop, and must swell it freely, and, if the trusses are well filled out, the last blooms that open may be sacrificed.

\* See article entitled "The Lean-to," page 118 of the June number of the FLORAL WORLD.



When the berries begin to colour again cease watering overhead, but keep the roots well supplied, give plenty of air, and the fruit will have a fine flavour.

This same plan adopted for fruiting a collection of varieties is, we are satisfied, the best for an early crop of any one, two, or three kinds; if grown for market, it may be well to fill a house or pit at once; if grown for private use, put in a dozen plants at a time at intervals of a fortnight, beginning the first week in December, and continuing till the last batch is housed. A capital way of using up the spare spaces next the gutters on the borders of a Paxtonian orchard-house is to spread a layer of dung, and put in a lot of potted strawberries. Every possessor of an orchard-house should grow strawberries in pots, as, being plants of humble growth, the crop may be secured without interfering, or but slightly so, with the space devoted to the trees; but the space usually left vacant near the bottom of the lights is the best, because there they are very near the glass. Old frames answer admirably, and probably a fortnight might be gained in advance of out-door crops by using calico, or "scrim," instead of glass, stretched on laths over old boxes or brick pits; but the last hint is given at guesswork, and not by knowledge, for we never tried it.

Where the runners have been allowed to root as they please, and no pains have been taken to secure an early supply of young plants, the system of shifting on is, perhaps, preferable to the "one shift" system which we follow. We have only to say respecting this that large shifts are preferable to small ones, and that the plants will ultimately do much better if the stuff is well crammed into the pots than if merely pressed in with the fingers. At this time of year strawberries will be found in many gardens in 60-sized pots, which they have now filled with roots.

If these are to be fruited in pots, they should have a shift at once to six-inch pots, and be set in a sunny place till required for forcing; but they will never make such a crop as plants that were got into fruiting pots in July or early in August.

We shall return to this subject next month in order to treat upon forcing, about which cultivators are not at present anxious. As many of our readers have not yet procured their stock for potting and planting, it may be well to remind them that a very complete descriptive list of strawberries, by Madame Vilmorin, will be found at page 31 of the third volume of the *FLORAL WORLD*, which may be referred to with advantage until we can submit a fresh list, brought up to the present time. The best of the many new strawberries is one which has been fruited for the first time this season by Mr. Webb, of Calcot Gardens, Reading. This variety is called "Refresher." Some of the berries sent to us weighed two ounces each, the shape globose, the colour deep crimson, the flesh dull crimson throughout, and remarkably rich, juicy, sweet, and with a delicious aroma. For general purposes there is still nothing to surpass British Queen, and that should be secured first, and take the lead wherever it thrives; and it does not succeed in some soils that suit other strawberries. A few other varieties of sterling usefulness, and pretty certain to crop well wherever there is a fair chance of a strawberry of any kind prospering, are the following:—Black Prince, early; Keen's seedling, early; La Constate, mid-season, superb in every respect; Rivers' Eliza, mid-season, very fine; Sir Harry, late, as it is not fit to eat till nearly black with ripeness; *Magnum Bonum*, late, and should be tried where British Queen does not answer; *Compte de Paris*, one of the best for preserving.

S. H.

## THE MANAGEMENT OF GREENHOUSE RHODODENDRONS.

THESE beautiful plants are, beyond question, the most ornamental objects a greenhouse can contain in the early spring months, exceeding even the azaleas when flowered in perfection, their large and ample foliage heightening to a degree of unsurpassable loveliness the vivid or delicate tints of the very specious flowers, to say nothing of the noble habit of the plant itself: how is it then that we so seldom meet with them, so rarely indeed that their presence is rather the exception than, as it should be, the rule? I know no other reason to be assigned than the too frequent complaints of a failure in the flowering. To prevent, as far as possible, the recurrence of these disappointments is my object in this paper; for I hold it unpardonable in those possessing a knowledge of the proper management of a tribe of plants having so many claims to attention, to suffer them to fall into disrepute from neglecting to make that necessary knowledge known.

The management of rhododendrons is in itself extremely simple when understood; yet, to explain it, I must be allowed to go through it in a concise manner. These, like most other American shrubs, delight in light fibrous heath-mould, and should be allowed plenty of it, for they are not fond of frequent shifting: repotting should be performed immediately after blooming, that is to say, as soon as the flowers begin to fade; all the additional stimuli are then thrown into the production of a rich luxuriant growth, on which are based all future expectations; while growing the plants should be kept in a temperature of about 55° or 60°, and receive a very liberal supply of water: this usually occurs about the latter end of April and beginning of May, sometimes a week or two later, according to the period of flowering, and the formation of the new wood generally occupies from three to four weeks. After which follows the most particular point of their management:

if the watering and warm temperature is continued beyond the period necessary for the due completion of this first growth, another production of new wood immediately follows, which is the sole cause of the non-production of flowers: the prevention of this second growth is what consequently requires the cultivator's most particular attention, and is almost the only important point in their culture. It must, however, be observed that it is necessary to get the first formed wood as large and strong as possible, or puny and few will be the flowers; but it is also equally necessary to discontinue the watering, and to place the plants in a cool situation out of doors immediately it is completed: to do this exactly at the right time requires some considerable amount of practical skill; but, when once ascertained correctly, everything is perfectly easy; the plants then only require just enough water to preserve them from flagging during the heat of summer; and at the usual time of housing plants, a warm situation in the greenhouse should be secured them. If an early bloom is required, they may be placed in a gentle heat directly after Christmas, though this is better avoided, from the trouble it causes to properly check and ripen the first growth; because, at that early period of the season in which forced wood will be produced, it is not safe to place them out of doors, and a greenhouse is seldom cool enough to prevent the second growth.

It must be understood, all that has been said relates only to mature flowering plants. The propagation and management of young plants being more particularly a nurseryman's business, I have said nothing of it, though there is no material difference, except that, as it will of course be desired to have them as large as possible in the shortest possible time, the second growth may be encouraged rather than prevented.

ANGLICUS.

## CULTURE OF CAMPANULA PYRAMIDALIS.

IN response to the request made in the last issue of the *FLORAL WORLD*, I now send you my mode of treatment of *Campanula pyramidalis*, one of our noblest greenhouse ornaments, but which is so rarely seen as to be quite a novelty, old-fashioned flower though it be. A pair of campanulas, a blue and a white, upon an exhibition table indeed, if well grown, would create a sensation; and as decoration for a hall or staircase, or drawing-room, are equally magnificent and rare; yet nothing is more simple than the whole routine of their culture; they are, indeed, all but hardy; they will live out of doors in this North of England, but they scarcely make such beautiful pyramids as those wintered indoors, owing to their throwing up too many stems. The objection to their more extensive cultivation seems to be an idea that such fine flowers are difficult to treat, and the fact of their requiring three years' nursing before flowering; but who that has trained a pyramid fuchsia, or raised seedling bulbs or shrubs, would shrink from this? Let it be known that there is no flower that is more certainly and easily cultivated with ordinary care and appliances; and these noble pyramids (seven or eight feet in height, and clothed from top to bottom with flowers) may as often be seen as pyramid fuchsias, and giving variety to the conservatory at a season when fuchsia hues often predominate too largely. Procure a sixpenny packet each of blue and of white *Campanula pyramidalis* seed, sow in hotbed in March, and you may have a hundred plants, or, if these are too many, sow half of each, and, if good, the remaining seed will vegetate a year later. Prick off the young plants into large seed pans, and their rapid growth will compel you to repot them, and in this, and in liberal treatment for three years, is all the secret there is, only let the treatment be liberal. Pot when they show that they require it; drain the pots thoroughly, and, with this one precaution, you need not stint them of

anything solid or liquid which you can conceive of richest and most nutritious. Good fat loam and old hotbed manure, equal parts, with a little sand, is not too good for their last potting before flowering, but in their younger state less manure will suffice, and its place be filled up by leaf-mould or peat. However, they are so accommodating as to do well in any soil that is not absolutely poor or stiff. In their growing seasons, and while flowering, or preparing to flower, stand the pots in pans of water. Three or four pottings may be required in a year, and they may stand out of doors all the summer, till they are running up their flower stem; then they may be taken in, but not placed in a window, or one-sided light, as, if carried straight, they require no sticks or supports; under a glass roof, or out of doors, the stem shoots up as straight as an arrow. They continue for three months or more in great beauty, but decaying flowers must be neatly cut out once a week. I had three plants come into flower about the middle of July, and they are still very beautiful in this middle of October, and for several weeks I cut off each plant more than a hundred decaying flowers. Two others I had which became infested with thrips, and these I have now destroyed, as they were losing their beauty. I always throw away plants that have done flowering, as, though they will shoot after being cut quite down, they never make beautiful plants. I keep up a succession of plants, and don't require to make use of them for second flowering, though I see friends to whom I have given plants do this, but the grace of the pyramid is not there, though they give a profusion of flowers.

When I have more plants than I require for indoor decoration, and for giving to friends, I use them as centres to pincushion beds, taking care to plant only such low-growing bedders around them as will not hide their beautiful pyramidal proportions. These make very handsome and

striking objects in gardens of good size, though out of doors the stem rises little more than half the height of indoor plants. If put out in May, before the flower-stems rise, they carry up strength and toughness, for though mine is as exposed a situation as can be found in England, I have now four campanulas out which have had no supports, their lithe stems bending before the blasts that have so sadly disfigured tall fuchsias, dahlias, etc.

Campanulas may be potted for the last time in twelve-inch pots, just before the flowers open; this should be a liberal shift in every sense of

the term, as a three or four months' abundant flowering requires much support from nutrition. Liquid manure may be given twice a week from the first rising of the flower-stems. Care should be taken in potting or handling the plants in all stages of growth not to break off the leaves, as these are very brittle, and any mutilation seems to affect the symmetry of the plant in its last stage of growth; the more the foliage is preserved, the more truly comes out their peculiarly graceful pyramidal shape.

A. A.

*Penrith, Cumberland.*

### THE PRESERVATION OF BEDDING PLANTS.

**THERE** is a method of preserving tender bedding plants, such as verbenas, scarlet geraniums, etc., through the winter, which, though not new, deserves mention, and much more general adoption than it receives at present. From its universal applicability, and the great success attending its employment, I think this neglect can only arise from the method not being sufficiently known.

It is simply to build up a bed of peat about eighteen inches or two feet in height, in the manner of a common hot-bed, only continuing the outer sods a foot higher than the interior, to form a wall on which the lights are to rest. These walls must be made secure with stakes driven through them, and a slight curb placed on the top, and the job is complete. The plants are then planted at regular intervals over the bed, and with the lights on and the attention to covering, etc., usually given to pits,

will bid defiance to the severest weather of our winters. It will be seen the method is inexpensive, as the peat will be in an excellent state for using in the following summer; and the plants themselves occasion far less trouble, as they require no water after the first application at planting; and from being well established in the soil are enabled to withstand uninjured a degree of cold that would be fatal to them in pots. In fact, though it should happen that some of the branches catch a little frost, it is next to impossible that the roots or lower parts of the stem can, from the amount of radiated heat that will be given off from the body of the bed whenever the external temperature is below that of the bed.

The plan is one which seems peculiarly suited to the amateur cultivator, as it simplifies and renders easy one of the most troublesome points in his practice.

HORTULANUS.

### SEDUM FABARIUM.

**THIS** nearly hardy sedum, raised by Captain Trevor Clarke, and sent out by Messrs. Carter and Co., of High Holborn, in 1860, proves to be one of

the most useful and easily-managed subjects, for autumn display, and admirably adapted for clumps, jardinetts, and to succeed geraniums and other

summer flowers in windows and in the conservatory. We tried a circle of it in pots in a clump consisting wholly of potted plants, and from the beginning of September to the end of October it made a beautiful display of its large corymbs of rosy pink flowers, which are the more attractive from being supported by an ample glaucous foliage, the leaves on strong plants averaging five inches in length and two inches in width. We were agreeably surprised on our visit to the Royal Horticultural Gardens on the occasion of the autumn show, on the 9th of September, to see it used in the same way in the five noble jardinetts that adorn the main walk in the great conservatory there, Mr. Eyles having detected the value of this sedum for decorative purposes, and turned it to good account to group with asters, and other late-flowering plants adapted for masses.

We are the more anxious to give prominence to this sedum, because our lists of plants flowering in October are meagre, and in all our great towns the ordinary bedders have usually run their race and lost their beauty by the end of September, and as the chrysanthemums are then scarcely forward enough for display, whatever can be used to fill up the gap is to be valued, and grown accordingly. *Sedum fabarium* is a strong grower, forming a stout stem, on which is produced a terminal head of pale rosy flowers. It can be propagated by cuttings in spring with the greatest ease, and is not at all particular about soil, provided the pots in which it is grown are well drained. In a rich sandy soil the

heads of bloom will be large and well coloured, but in a very poor soil, the plant will be sure to bloom, though, of course, with less vigour. It needs at all times a sunny situation, and in winter very little water. It is cer-



SEDUM FABARIUM.

tainly a good companion to that most elegant of all the hardy sedums, *S. Sieboldii*, but, unlike that, grows best in the open air all the summer, whereas *S. Sieboldii* should be kept under glass the whole year round.

## THE CULTURE AND FORCING OF LILY OF THE VALLEY.

THE *Convallaria majalis*, or lily of the valley, is an elegant and delicate scented plant, which has long been held a favourite; though from the circumstance of its not being a native of hot countries, is not likely to be the lily of the valley mentioned by Solomon. Notwithstanding the fra-

grance of the flowers when fresh, they have when dried a narcotic odour; and if reduced to powder, will excite sneezing. An extract prepared from the flowers or from the roots, partakes of the bitterness as well as of the purgative properties of aloes. A beautiful and durable green colour

may be prepared from the leaves with lime.

This little plant is very common in the woods about Woburn, in Bedfordshire, and from whence the London markets are supplied with the flowers. It also grows in abundance in Essex, and at Cromehurst, near Croydon, and in some of the southern counties of Scotland. In Essex it is to be found to the extent of several acres in one place, on a soil of a very close loamy texture, mixed with clay. The situations which it seems generally to inhabit are somewhat marshy. In such places the plant will grow and thrive amazingly, producing heads of pure white flowers full six inches long.

They should be planted in a situation and soil similar to that I have just described. Before planting dig over and well break the ground about nine inches deep, then plant the roots about four inches apart all over the surface of the ground, giving them a gentle press down with the thumb and finger, and then cover them about four inches thick with the same sort of soil. On forming new plantations of this plant I select all the flowering buds from my stock of roots, which I plant by themselves, but in the same way as I do the others. If equal quantities of each can be had there will be equal quantities of flowers for two or three successive seasons, after which they should be all taken up, the roots divided, and replanted in the same way. If neatness is desired, as well as a stock of good plants producing a plentiful supply of flowers in their season, the above is the easiest and most certain method that I am acquainted with. It may be well to state that at the time of replanting it will be requisite to leave a sufficient quantity undisturbed for the purpose of lifting for forcing during the winter months. It is rather surprising that this plant has not been cultivated with better success. The reason of this, in my

opinion is, that it has been killed by too good treatment.

From the early period at which the lily of the valley naturally flowers, few plants are more eligible for early forcing. As I have been rather successful, both as regards general cultivation and winter forcing, I will now endeavour to give a brief outline of the practice I have pursued in forcing. I pot them in 32-sized pots, filled to within three and a half inches of the rim with rich loam, upon which the roots are closely placed, and then covered about two inches in thickness with equal parts of leaf-mould and sand. They are then well watered, so as to settle the mould about the roots. I then place them on a shelf near the glass in a moist stove or forcing house, the temperature of which may range from 65° to 75°, and take care that the soil does not become dry. When they are so far advanced that the plants show their heads of flowers, I remove them into a warm greenhouse, still placing them near the glass, until as they advance in growth they are withdrawn by degrees into a shaded part of the house, from whence they are removed to the drawing-room as required. When I remove one lot of plants from the forcing-house their places are immediately filled with others, which are similarly treated, and thus an ample succession will be kept up. Care and attention are requisite in lifting and selecting the plants for forcing. They require a minute examination to distinguish those that will flower from those that will not, the only difference being that the buds of the former are more round and short than those of the latter. I cut off the flowering buds with as many roots to them as possible, and after I have obtained a sufficient number the rest are carefully replanted, taking care that none of them are lost, for those which will not flower one season may do so the next.

D. WATT.



## BULBOUS FLOWERS IN WINDOWS.

I SHOULD be much obliged if in your interesting FLORAL WORLD you would kindly inform me whether the *Agapanthus umbellatus* is likely to bloom with me as a window plant. My house is situated at a corner, in the main road, aspect south and east, exposed to great heat in summer, great cold in the winter. Gas is used in the shop below. The air I consider impure, in spite of a strong current of air through the house whenever any wind is blowing. I am quite a window gardener, with not an inch of garden or out-door place to stand a pot, besides window ledge or tiles, where they are then in constant danger of being blown down. I inclose a list of bulbous plants I have, tried both with the idea that it may be useful in assisting you to advise me what bulbous plants to try, and also that it may be useful to others similarly situated.

Of course I have tried numbers of herbaceous plants and seeds, with plenty of failures. I have planted a number of fresh ones (bulbous), this year in pots. The following is a list of subjects that have been attempted in 1862-1863:—  
 \*\* means bloomed well, \* means bloomed poorly, \* means did not bloom at all. *Tritonia rosea*\*, *Tigridia pavonia*\*, *Lilium longifolium*\*, *L. chalcedonicum*\*, *L. aurantiacum*\*, *lancifolium rubrum*\*\*\*, *L. tigrinum*\*\*\*, *L. candidum*\*\*\*, superbly, *Oxalis speciosum*\*, *Iris persica*\*, *Iris Lusitanica*\*, *Iris pavonia*\*, *Gladiolus Byzantinus*\*\*\*, *G. hybrid courantii fulgens*\*, *G. ramosus*\*\* first year, \*second year; *G. Brechleyensis*\*, yellow *crocus*\*\*\*, purple *crocus*\*, *Narcissus poeticus*\*\*\*, *N. pseudo-narcissus*\*, *N. Grand Monarque*\*\*\*. Jonquils and Tulip Van Tholl double, two out of six bloomed poorly; Star of Bethlehem, Ornithogalum, and Hyacinths did well. [The two names which follow here are unintelligible. They appear to read, "Belg. Cael, no bloom; Alb, hardy."] *Allium moly*\*\*\*, *Anomatheca cruenta*\*\*.\*

## WINDOW GARDENER.

[The best part of this communication is that which is "conspicuous by its absence." The writer is not at all despondent, but after so many failures is prepared to "try, try, try again." We confess to some little perplexity in attempting to advise him, because we know there may be many reasons for failure in the culture of bulbs, apart altogether from the circumstances under which our friend of Walworth Road is placed; and we cannot

of course go through the list *seriatim*, and lay down rules for each particular class of bulbs. But as bulbs are among the most useful of subjects for windows, we will endeavour to make a few practical remarks, and first for the subject of *potting*.

If this is not properly done, the bulb may fail to throw up its flowers, although a good bulb always contains its flowers ready formed in an embryonic condition. The pots, boxes, baskets, or what else in which they are to be grown, should have perfect drainage. Over the hole in the pot lay one large hollow crock, or oyster-shell, hollow side downwards; on this pile a few smaller pieces carefully, and then put in a handful of crocks of the size of hazelnuts. On this lay two or three pieces of turf torn to the size of walnuts, or if no turf, put a handful of the most fibrous portion of cocoa-nut waste. The compost to fill up should consist of silver sand, one part, friable yellow loam, one part, dung rotted to powder and quite free of worms, two parts, all well chopped up and mixed together. Let the pot be nearly filled with this mixture, and pressed in moderately firm. Now take a hyacinth bulb, and press it down into the soil, and fill in round it, so that when the pot is filled to within half an inch of the rim, the bulb will be half in the soil and half out. If the soil is pressed into the pot as hard as a pavement, the bulb will rise on one side and look unsightly, because of the resistance the young roots will meet with, and if the stuff is too loose, the pot will not contain sufficient to nourish the plant; so a moderately firm condition of soil is needful to hit the happy mean, and this must be a matter of experience. Tulips, Crocuses, Irises, Tritonias, and Ornithogalums in pots and boxes should be quite covered with soil; large bulbs of *Narcissus* may be pressed in partially, the same as hyacinths. Next, as to *watering*. Give very little at first; keep the pots or boxes in a window, or in a sheltered place outside, where they will neither be nipped by frost nor urged into too rapid a growth by artificial heat. As soon as the leaves and spikes rise fully, give plenty of water, and occasionally sponge the leaves with tepid water, but with great care not to snap or bruise them. While the flower-spikes are rising, let them be fully exposed to daylight; if kept on mantel-pieces and sideboards, the flowers will lack colour and the leaves will be blanched, but when the bloom is full out, they may be placed anywhere as desired for ornament. *Aster*-

*treatment.* When they have finished their bloom, throw them away. This is really the best advice we can give our friend and all others similarly situated. But if window gardeners will keep their bulbs, they must treat them according to the directions given in many places in past issues of the FLORAL WORLD. There is one more point of some importance, and that is *selection of bulbs.* In the first place, if the bulbs are not sound and hard—size is of less consequence—they will never flower well. Hyacinths are extra large this season, but we doubt if they are any the better for that. We advise our correspondent to buy of first-class dealers only. The cheap bulbs sold by cornchandlers and miniature seedsmen are the sweepings of the markets. Then, as to species and varieties. None of the iris, agapanthus, and liliium are suitable for windows where there is much dust, and the atmosphere is loaded with the impurities caused by gas-lights; for this reason, that before they flower they make a long-continued leaf-growth, and during this

period they suffer in health, and are pretty well exhausted before the flowering season arrives. But bulbs which throw up their flower spikes at once are well adapted for such a purpose, because the flowering is over, or nearly so, before the health of the plants is seriously affected. Therefore, we advise our correspondent to indulge freely in hyacinths, crocuses, snowdrops, and tulips, and he may add winter aconites, *Narcissus poeticus*, *Narcissus bulbocodium*, and a few of the cheapest anaryllis, but other kinds he must take at his own risk. We are glad to learn that *Lilium candidum* bloomed beautifully. Now, that is in itself a flower-show for a London window. The plant should now be refreshed either by a shift to a larger pot, or by the careful removal of some of the old soil, and replacing it with fresh, and of the kind recommended above. By the way, we have plants of *Lilium Japonicum* now (October 27), in full bloom in our own windows, being the first blooms of offsets taken up in spring from one of our peat-beds.]

### THE GARDEN GUIDE FOR NOVEMBER.

THOSE who intend to enjoy the sight of well-bloomed beds of bulbous plants must now set to work in earnest, and get every bulb into the ground. The more they shoot while kept dry the more are their energies exhausted; and if the blooms are not deteriorated—as they are pretty sure to be—the bulbs themselves will be weakened, and will be poor the next year. Lord Mayor's Day is the day for planting tulips with the majority of London growers; in Lancashire they are a little earlier. The remark about planting applies also to purchasing. The best are sold first; as the season wanes, the dealers have only the leavings of others who were on the look out in time, and who had the pick on the first arrival of the bulbs. Add to this the uncertainty of the weather at this time of year, and there are three good reasons for attending to the bulbs at once, even to the neglect, for a week or two, of other matters. Planting is now going on in all directions. In this work delays are dangerous. Trees got into their quarters at once, even if they have not quite shed their leaves, will at once make fresh root, for the ground is warm, and get well established before severe frosts set in. Order at once whatever fruit trees, roses, etc., you may require, and have the ground prepared, so that they may be planted immediately on arrival. Laying in by the heels is a mis-

chievous practice, and should never be resorted to, except when unavoidable. It is better, however, for trees to lay in than lay out; the air acting on their exposed roots does immense injury; but the danger of laying in is that, regarding them as "safe for the present," the planting is often deferred till they have actually struck out roots; and lifting them to their places destroys the new roots, and compels them to a second effort when planted.

**KITCHEN GARDEN.**—Wherever digging and trenching are required, let it be done without delay; every additional day's exposure of the soil to the action of the weather is a benefit to it; generally speaking, it is not well to manure in autumn, because the winter rains wash the best of it away, but manures should have attention, and this is a good time to clear out the muck pit, and pile the stuff in a heap, and throw over it a few inches of soil or burnt clay. In dry frosty weather it should be chopped down and turned, and again soiled over to preserve its virtues and at the same time sweeten it for use. Turf should be stacked, and clippings collected for burning to make dressings of manure for beds and borders. The general work of the kitchen garden is but a continuation of last month, to which we refer to avoid repetitions. Those who are inclined to venture a few speculative crops should



sow Mazagan beans, Dillistone's Early, Sangster's Number One, and Early Emperor peas. If they get through the winter they will produce a few early dishes, but there is the risk, not only of severe weather, but of the attacks of slugs and snails, and where these vermin are allowed to riot on the ground winter sowings have little chance. Broad, well-drained slopes are of great value for winter sowings and for bedding out lettuce, broccoli, and cauliflower for the winter; and with the help of reed or thatched hurdles for shelter, late and early supplies of vegetables and saladings may be secured, and will always pay well. Turn gravel walks, clean and turn plunging beds, make a clearance of corners devoted to rubbish, especially where there is an accumulation of old pea-sticks and timber, as it is among such stuff the vermin take shelter, to issue forth in spring and destroy the seed crops, and bring disgrace upon the small birds.

**ORCHID HOUSE.**—As the season declines, the temperature of the house must be reduced, but this must be done with great care, because many fine species will soon be showing bloom. In the first place, look to the Cattleyas, and remove them to the coolest end, and let them have a temperature averaging 70° by day and 60° by night, in order to induce a perfect state of rest. If in a higher temperature than this there will be a further growth of the plants at the expense of the next bloom. With these group *Cycnoches*, *Lycastes*, and *Catasetums*, which are all likely to suffer if kept growing now in too high a temperature. Orchids now pushing for bloom will require liberal heat and moisture, and these may be grouped with *Dendrobiums* and *Aerides* in a temperature of 80° by day and 70° by night. As soon as any of the *Barkerias*, *Cycnoches*, *Cyrtopodiums*, *Phajus albus*, *Pleione maculata*, *Wallichiana*, and other deciduous orchids begin to shed their leaves, they should be placed in the cool end of the house in the most sunny position that can be found for them, and there have but little water. This treatment will cause them to ripen their pseudo-bulbs, and their aftergrowth and flowering will be more vigorous. On the other hand, *Vandas*, *Angræcum*s, *Aerides*, *Saccolabiums*, and *Phalænopsis* must never be allowed to get very dry at the roots, even when at rest, as they shrivel and lose their lower leaves. These species, moreover, require but a short period of rest. Variegated orchids require great care from this time till March, only give enough water to keep from shrivelling. [Unavoidably omitted last month.]

*Orchids that may be in bloom in October*  
*Angræcum bilobum*; *Barkeria Lindleyana*; *Bletia campanulata*; *Burlingtonia Knowlesii*; *Calanthe vestita rubra oculata*; *Cattleya candida, guttata, Harrisoniæ, intermedia superba, marginata*; *Cypripedium Farrieanum*; *Dendrobium Gibsoni, Heyneanum sanguinolentum*; *Huntleya Wailesiæ*; *Lælia elegans* var. *Dayii*, *furfuracea*, *Perrini*; *Miltonia candida, Clowesii major, Morelii, Regnelli*; *Phalænopsis amabilis, grandiflora*; *Pleione maculata, Wallichiana*; *Stanhopea oculata*; *Vanda Lowii*.

**FLOWER GARDEN.**—Whatever is of too tender a nature to bear exposure to frost should be got under cover without delay. Choice pansies, carnations, auriculas, and phloxes require the shelter of a frame or coal pit. Dahlias should be taken up, tallied, and stowed away out of the reach of frost, moisture, and heat. Get a supply of rose-stocks at once, if you intend to graft or bud for yourself next season. Plant in good loam, and stake them securely, or run light hazel rods along the rows and secure their ends to stout uprights, and tie in the stocks to them. Bulbs should be planted as soon as possible, both in beds and borders. Cheap mixtures of hyacinths and tulips serve every purpose for general decoration of the borders, and the dealers will make good selections for those who are not familiar with the properties of the several sorts. A bed of standard roses is an excellent place for a display of hyacinths regularly planted in clumps between the trees. Take up dahlia and marvel of Peru roots, and store away when quite dry. Gather any seeds that remain out, and dry in-doors. Set about any intended alterations at once, that the consequent planting may be done before we get frost and snow. Well-rolled turf and gravel and trimly-kept borders are very necessary now that the colours are declining, and the garden is resuming a skeleton condition in which outlines and surfaces are nearly all that remain to give pleasure to the eye. In selecting evergreens and deciduous shrubs for decorative purposes the colours of their foliage at this season should be taken into consideration.

**FRUIT GARDEN.**—Prune and plant as weather permits. Give special attention to wall fruit, and where standards have got crowded thin out the heads, but be very cautious about cutting large boughs off healthy bearing trees. Bush fruits should be pruned, and the ground forked over between the rows. Burn the prunings and strew the ashes over the newly-forked surface. Red and white currants must be

cut back to skeletons; the chief of the fruit-buds being at the junctions of the new wood with that of last year; leave only three or four joints beyond that point, and cut clear away at the base every branch that is ill placed or that chokes up the centre. Black currants do not like the knife. Trim the branches to regular distances, and shorten the longest back to good joints, but preserve plenty of young wood, leaving the plumpest branches nearly their full length and cutting all weak ones clean away. Treat gooseberries in the same way; they never bear well if severely pruned. Scrub old apple trees that are infested with blight with a strong briue, rather warm, and stop the holes with a mixture of clay, sulphur, soot, and cow-dung, beaten together into a tenacious paste. Put stakes to everything fresh planted, or, better still, three lengths of tarred rope fastened to pegs driven firmly in the ground.

**GREENHOUSE.**—There is great danger of overcrowding the plants newly housed, owing to the numbers that are propagated during summer. It would be better even to destroy surplus stock than to spoil a whole collection by cramming too many plants into a limited space. Give plenty of air, but guard against sudden night frosts. Withhold water as much as possible to induce a state of rest in the plants, but allow nothing to get dust-dry, for that is an injury to the tender roots, on which the plant has to depend in a great measure to sustain itself. The first frost is generally severe; if, by accident, any plants get caught by it, keep them shaded and occasionally sprinkled with cold water, but remove the shade as soon as they show signs of recovery. Plants in bloom should be kept safe from cold nights, and whenever watered it should be with tepid water. Green-fly is very apt to attack soft-wooded plants at this season, and the moment the pest appears tobacco smoke must be resorted to. Keep up the heat among pines, but give as much air as possible. Do not push any into undue growth, or they will suffer severely on the accession of colder weather. Do without fire as long as you dare, but use a little in foggy weather to cause a circulation of air. Be gentle with plants that are to be forced; if put into heat too suddenly the bloom-buds will fall off or burst.

**Auriculas.**—Damp is now their great enemy, and yet water must be given, if they want it, at the root. Keep the glass over them, and give air liberally. Remove dead leaves, and guard against drip.

**Azaleas.**—Keep cool, or they may start

too soon; a few may be started very gently for the first bloom.

**Camellias** are now in fine bloom in many places, and only need moderate protection to keep them gay. But, as they are not yet wanted, those showing colour must be retarded as much as possible to keep them back till the chrysanthemums are over.

**Chrysanthemums** to have plenty of water and no more liquid manure. By keeping the backward plants out to the latest moment which it is safe to do so, they will come in usefully as a succession to keep the conservatory gay till after Christmas.

**Cinerarias** have now their seasonal ordeal to pass through, and must have every proper attention, or mildew will eat them up. Sulphur them if there is the least sign of the plague, and give plenty of air. Get specimen plants into shape, and put the early ones into their blooming pots; stop ten days after shifting.

**Dahlias.**—Take up at once, or as soon as the frost has spoilt their beauty. A few dahlias, which we took up on clean stems by disbudding rather late in the season, are now nice standards in pots, and will make a show under glass for some time to come. This may be a useful hint to those who have heavy demands upon them to keep conservatories gay.

**Fuchsias** done blooming to be left out as long as possible to harden the wood, and those for specimens next year to be started gently as soon as they have shaken off their leaves, preparatory to repotting in a month's time. Standards must be kept slightly on the move all winter to make sure of them. Fuchsias stored under stages had better not be pruned, except just the points of the longest shoots, as it causes them to break before they are wanted. Late-struck plants will be in nice bloom now for the conservatory, and cuttings may now be put in for early plants.

**Geraniums** potted from the borders to be pruned in, but not severely, sufficient only to remove the soft sappy growth, as severe pruning would cause them to grow again too quickly. Those for special purposes and for early bloom should be cut in close, and put in bottom-heat for a month. If any remain out get them up before they melt into a jelly, and give them a warm berth for a week or two, to enable them to get hold of the new stuff in which they are potted. Poor sandy stuff for all bedders that are merely to be kept, as the less growth the better.

**Pelargoniums** have been pretty free from disasters hitherto; but the season of mildew is upon us. Use fire-heat by day

only during frost and damp, train and stop, water sparingly; do not wet the foliage.

*Tulips* to be planted at once. Lord Mayor's Day is the commencement of the session among the fanciers; if planted earlier they break ground too soon in the frost; if later they flower weakly. But bedding tulips may be planted any time from the 1st of October to the middle of November.

*Rose stocks* to be planted at once. Reject all the gray hard-barked briars; the best are those with formidable spines and a greenish bark. Plant roses for blooming next season; a stiff, well-manured soil suits them best, and, except in very cold districts, the more open the position the better.

*Scarlet salvia* may be kept in bloom a considerable length of time, in a warm light place in the conservatory, especially if rather pot-bound, and kept in vigour with manure water.

*Vines* breaking to have air cautiously, as a chill may result in disease of some kind hereafter. If red spider appears on vines planted inside, give the roots a liberal watering, in addition to the other means of eradication; a vigorous growth will prove as powerful a preventive as any special applications of Gishurst, etc. Where grapes are still hanging keep the atmosphere dry.

*Violets* potted now, by taking up strong runners, will bloom early and be of service. Use plenty of charred rubbish to lighten the compost, which should be rich.

*Wall trees* to be pruned, and as much good wood as possible laid in.

*Hollyhocks* of choice kinds should be taken up and potted, and a few of the shortest shoots taken from each and put round the sides of pots as cuttings: they will root without the aid of heat in a frame or pit.

*Carnations and Picotees* to be kept comparatively dry, and very freely aired. Prepare the compost for next season's potting by chopping over two parts yellow loam with plenty of fibre in it, one part rotten cow-dung, and a half part of fine siftings from old plaster or road sand. Lay this up in a ridge, and let it be several times turned during the winter, especially with a view to get the whole mass two or three times frozen through.

*Lobelia cardinalis* and its kindred should be taken up and planted in boxes to keep over winter in frames, or separate the

shoots and pot the offsets separately, or four or five together, in 48-sized pots.

*Grass turf*.—This is the best time in the whole year to lay down turf. Secure for garden lawns turf of fine quality and close growth, containing a good proportion of clover. Generally speaking, the best turf is obtained from commons where it has been continually eaten close. The ground must be firm on which the turf is laid, or it will sink in places during the winter. When laid let it be well beaten and the joints closed.

**ORCHID-HOUSE.**—All orchids requiring rest now should have less water and a cooler and drier atmosphere, and a more liberal ventilation, than in the growing season. Evergreen kinds will require a moderately warm position. It is at this time of year that rot and spot begin their havoc in the orchid-house. Both these maladies are the result of improper treatment by the cultivator, one cause of both diseases being the continuance of too high a temperature with much moisture, during the period when the plants ought to be at rest, and another frequent cause is too much damp when the temperature is low. The drip from the glass falling on the pseudo-bulbs frequently causes rot, and whenever rot appears the parts affected should be cut clean away, and the parts filled up with sulphur. Discolouration of the pseudo-bulbs is one of the indications of approaching rottenness. Spot appears to result frequently from cold draughts passing through the house when there is much vapour and the plants are damp. Removal to a drier and warmer air will generally stop its ravages; but as soon as the growing season returns the plants that were affected should be started in a brisk heat and have every possible encouragement to grow, and they will generally grow out of it. In preparing for the winter wash all the glass and woodwork of the house.

*Orchids that may be in bloom in November.*—*Angræcum bilobum*, *sesquipedale*; *Barkeria Skinneri*; *Burlingtonia amœna*, *Knowlesii*; *Calanthe vestita*; *Cattleya intermedia superba*, *labiata*, *maxima*; *Cypripedium Farrieanum*; *Dendrobium album*, *Gibsonii*, *Lowii*, *Huntleya*, *Walesiæ*; *Lycaste Skinneri*; *Lælia elegans* v. *Dayii*, *furfuracea*, *Perrinii*; *Miltonia candida*; *Oncidium Forbesii*, *Pleione maculata*, *Wallichiana*; *Sophronites grandiflora*; *Stanhopea oculata*.

## NOVEMBER, 1863.—30 DAYS.

PHASES OF THE MOON.—Last Quarter, 3rd, 3h. 34m. after.; New, 11th, 7h. 59m. morn.;  
First Quarter, 18th, 3h. 5m. morn.; Full, 25th, 9h. 2m. morn.

| D<br>M | Sun<br>rises. | Sun<br>sets. | Moon<br>rises. | Moon<br>sets. | Weather near London, 1862. |       |              |     |      |     | THE COUNTRY.                     |                           |
|--------|---------------|--------------|----------------|---------------|----------------------------|-------|--------------|-----|------|-----|----------------------------------|---------------------------|
|        |               |              |                |               | BAROMETER.                 |       | THERMOMETER. |     |      |     | Rain.                            | The Garden and the Field. |
|        |               |              |                |               | Mx.                        | Min.  | Mx.          | Mn. | Me.  |     |                                  |                           |
| 1      | 6 55          | 4 33         | 9 9            | 0 1           | 29.83                      | 29.79 | 55           | 49  | 52.0 | .01 | Sycamore leafless.               |                           |
| 2      | 6 57          | 4 31         | 10 11          | 0 31          | 29.95                      | 29.89 | 60           | 42  | 51.0 | .00 | Hazel leafless.                  |                           |
| 3      | 6 58          | 4 29         | 11 15          | 0 57          | 30.03                      | 29.98 | 57           | 34  | 45.5 | .00 | Hornbeam leafless.               |                           |
| 4      | 7 0           | 4 27         | Morn.          | 1 21          | 29.99                      | 29.95 | 58           | 40  | 49.0 | .02 | Lilac leafless.                  |                           |
| 5      | 7 2           | 4 25         | 0 19           | 1 42          | 29.99                      | 29.98 | 51           | 33  | 42.0 | .60 | Cherry leafless.                 |                           |
| 6      | 7 4           | 4 24         | 1 25           | 2 2           | 30.07                      | 30.01 | 48           | 33  | 40.5 | .14 | Birch leafless.                  |                           |
| 7      | 7 6           | 4 22         | 2 33           | 2 22          | 30.24                      | 30.14 | 44           | 30  | 37.0 | .00 | Hooded crow arrives.             |                           |
| 8      | 7 7           | 4 20         | 3 41           | 2 41          | 30.28                      | 30.27 | 50           | 40  | 45.0 | .01 | Ash leafless.                    |                           |
| 9      | 7 9           | 4 19         | 4 53           | 3 9           | 29.71                      | 29.51 | 53           | 37  | 45.0 | .08 | Primroses fl.                    |                           |
| 10     | 7 11          | 4 17         | 6 7            | 3 39          | 29.35                      | 29.33 | 49           | 28  | 38.5 | .00 | Arbutus unedo fl. [fl.           |                           |
| 11     | 7 13          | 4 16         | 7 22           | 4 17          | 29.62                      | 29.40 | 48           | 20  | 34.0 | .00 | Nidularia campanulata            |                           |
| 12     | 7 14          | 4 14         | 8 33           | 5 2           | 30.02                      | 29.82 | 47           | 19  | 33.0 | .00 | Plane leaves fall.               |                           |
| 13     | 7 16          | 4 13         | 9 39           | 6 0           | 30.10                      | 29.92 | 40           | 23  | 31.5 | .00 | Apricot leafless.                |                           |
| 14     | 7 18          | 4 11         | 10 34          | 7 8           | 29.90                      | 29.87 | 47           | 31  | 39.0 | .00 | Beech leafless.                  |                           |
| 15     | 7 20          | 4 10         | 11 18          | 8 22          | 30.05                      | 30.00 | 45           | 30  | 41.0 | .00 | Larch leaves fall.               |                           |
| 16     | 7 21          | 4 8          | 11 54          | 9 41          | 30.16                      | 30.07 | 50           | 34  | 42.0 | .00 | Various agarics fl.              |                           |
| 17     | 7 23          | 4 7          | After. 11      | 0             | 30.34                      | 30.26 | 49           | 30  | 39.5 | .00 | Wych hazel fl.                   |                           |
| 18     | 7 25          | 4 6          | 0 50           | Morn.         | 30.31                      | 30.20 | 46           | 35  | 40.5 | .00 | Pyraecantha berries turn orange. |                           |
| 19     | 7 27          | 4 5          | 1 15           | 0 19          | 30.11                      | 30.09 | 43           | 30  | 36.5 | .00 | orange.                          |                           |
| 20     | 7 28          | 4 3          | 1 38           | 1 35          | 30.15                      | 30.10 | 41           | 33  | 37.0 | .00 | Lauristinas fl.                  |                           |
| 21     | 7 30          | 4 2          | 2 2            | 2 50          | 30.16                      | 30.05 | 45           | 25  | 35.0 | .00 | Mespilus-crusgalli berries ripe. |                           |
| 22     | 7 32          | 4 1          | 2 27           | 4 4           | 29.90                      | 29.80 | 43           | 18  | 30.5 | .00 | Golden plover arrive.            |                           |
| 23     | 7 33          | 4 0          | 2 56           | 5 16          | 29.72                      | 29.64 | 44           | 20  | 32.0 | .00 | Sweet scented coltsfoot          |                           |
| 24     | 7 35          | 3 59         | 3 32           | 6 27          | 29.71                      | 29.67 | 44           | 29  | 36.5 | .00 | Larch leafless. [fl.             |                           |
| 25     | 7 36          | 3 58         | 4 12           | 7 32          | 29.66                      | 29.56 | 40           | 30  | 35.0 | .00 | Oak leafless.                    |                           |
| 26     | 7 38          | 3 57         | 5 1            | 8 28          | 29.51                      | 29.47 | 42           | 25  | 33.5 | .06 | Redwings arrive.                 |                           |
| 27     | 7 40          | 3 56         | 5 55           | 9 18          | 29.59                      | 29.43 | 51           | 26  | 38.5 | .02 | Elm leafless.                    |                           |
| 28     | 7 41          | 3 55         | 6 54           | 9 59          | 29.72                      | 29.69 | 52           | 38  | 45.0 | .00 | Fieldfares arrive.               |                           |
| 29     | 7 42          | 3 54         | 7 57           | 10 33         | 29.63                      | 29.59 | 46           | 27  | 36.5 | .00 | Stock doves arrive.              |                           |
| 30     | 7 44          | 3 53         | 9 110          | 59            | 29.74                      | 29.69 | 48           | 31  | 39.5 | .07 |                                  |                           |

PROBABLE WEATHER IN NOVEMBER.—A generally fine month, with frequent returns of summer weather. From 1st to 15th warm, sunny, with occasional light showers; wind S.W. to S.E. From 15th to 30th frequent light frosts, with clear skies and little rain; wind N.W. to N.E. In northern districts snow and frost, with wind N.N.W. to N.E. after the 15th.

## CHRYSANTHEMUM SHOWS IN NOVEMBER.

- 3rd, 4th, and 5th.—Milton Hall, Hampstead Road.  
4th.—Woolwich.  
9th.—Hackney Road.  
9th and 10th.—Stoke Newington.  
9th, 10th, and 11th.—Mile-end Road.  
11th and 12th.—Commercial Road, Peckham.  
11th, 12th, and 13th.—Agricultural Hall, Islington.  
18th and 19th.—RouPELL Park, Brixton Hill.

## TO CORRESPONDENTS.

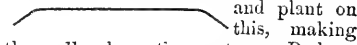
**CATALOGUES RECEIVED.**—"George Walker Dixon, 48A, Moorgate Street, London, E.C. Catalogue of Flower Roots." A neat list of useful bulbs.—"William Paul, Nurseries and Seed Warehouse, Waltham Cross, N. Descriptive list of Strawberries and Grape Vines." A very useful catalogue, containing all the best varieties known.—"A. Godwin and Son, Rosarium, Railway Station, Ashbourne, and at Collycroft. Descriptive Catalogue of Roses." A carefully-prepared list, with accurate descriptions.—"Paul and Sons, Old Nurseries, Chesbunt, Herts. Descriptive Catalogue of Evergreens, Deciduous Trees, Conifers, American Climbing and Herbaceous Plants." A first-rate and very useful list, as it contains both the botanical and English names, together with some practical remarks, pointing out the best positions for placing them, according to their capabilities for standing severe weather, their habit, etc.—"John Cranston, King's Acre Nurseries, near Hereford. Descriptive Catalogue of Selected Roses." A fine list of roses, intelligibly arranged and faithfully described.—"Sutton and Sons, Royal Berks Seed Establishment, Reading. Autumn Catalogue of Bulbous Flower Roots." This catalogue not only contains a good list of bulbs, but an excellent assortment of miscellaneous plants.—"Ambrose Verschaffelt, Rue du Chaume, 50 a Gand (Belgique). Catalogue of New Plants for the Autumn of 1863 and Spring of 1864." The numerous and interesting novelties issued by this enterprising and successful horticulturist are in this catalogue divided into three sections: First, plants suitable for cultivation in the stove; second, plants for greenhouse culture; and third, plants which may be cultivated in the open air.

**FERN COLLECTING.**—I am making a collection of British and foreign ferns, both in the ferneries and preserved specimens. Please inform me the best books of reference to procure to assist me in naming them, and the varieties of each kind, together with the price and publishers.—*A. B. S., Torquay.* [For your purpose small hand-books, with one exception, will be of no use at all; that exception we make in favour of "Moore's Handbook of British Ferns," third edition, published by Groombridge, at 5s. Among hundreds of manuals of British ferns, that is the only one worth serious attention, and it is remarkably complete

and accurate. We should recommend next Lowe's "British and Exotic Ferns," 8 vols., £6 6s.; Lowe's "New and Rare Ferns," £1; and Lowe's "Native Ferns and their Varieties," now publishing in shilling parts by Messrs. Groombridge. We have Mr. Lowe's work in constant use, and have compared the figures and the ferns together hundreds of times, and have but rarely had to question the fidelity and beauty of Mr. Lowe's plates. We regret that the text is meagre, but that happens to be the fault of most good picture books. Sir W. J. Hooker's "Century of Exotic Ferns," published by Reeve, at £5 5s., may be added as a luxury; its scope is too restricted for general usefulness. Lastly, obtain from Mr. Pamplin Smith's catalogue of ferns, and Moore's Index Filicum; these will cost only a few shillings each.]

**AVENUE IN SUBURBAN GARDEN.**—*G. S.*—

The miserable lime trees you contemplate removing were probably planted too deep, and in undrained soil; perhaps merely planted in *holes*, which we do not consider as planting at all. From your description we suppose the meadow in which the avenue is to be planted is at a lower level than the banks of the river close by; if so, the infiltration of water will keep the ground always wet, and the only really safe way of forming an avenue would be to form a drain of two-inch pipes, and then raise the soil in the form of a terrace or continuous platform above the general level, thus—



and plant on this, making the walk along the centre. Perhaps the grandest tree known for an avenue is the Deodara cedar, but you would have to wait years for effect. Wellingtonia is well adapted also, but slow in growth. The trees you think of, such as poplar, beech, etc., we could not recommend, but if expense is an object, and you want to realize the effect speedily, use *Ailanthus glandulosus*, or, to be very grand, and make a dashing affair of it at a small cost, copper-leaved beech. Pardon us again saying that the trees *must be planted*, not merely stuck in holes. To give interest to this walk, the inclosed meadow ought to be liberally planted as an arboretum.

**FRUIT TREES FOR GARDEN AT EXMOUTH.**

—*Polly.*—It is almost a pity to use up the clay in making foundations for walks, for it will make very bad foundations unless burnt; and if you want

good fruit you can scarcely do better than mix some portion of the clay with the surface loam, which will enable the trees the better to keep thrifty in such close proximity to sandstone rock. We believe the following will be a good selection to add to what you have, to give variety and succession in each of the several classes:—For the walls—Elsruhe Nectarine; Tardive d'Orleans Apricot; Green Gage, Jefferson, Coe's Golden Drop, and Coe's late red Plums; Morello, Belle Magnifique, and early purple Guigne Cherries; Josephine de Malines Pear. To grow as bushes the following Apples.—Beauty of Kent, Braddick's Nonpareil, Cellini, Cox's Orange Pippin, Juneating, Golden Harvey, Newtown Pippin, Lord Suffield, Reinette du Canada, Ribston Pippin, Waltham Abbey, Knight's Downton Pippin. Plums.—Early Prolific, Reine Claude Violette, Lawrence's Gage, Reine Claude de Bavay, Prince Englebert, De Montford, Mirabelle, Belle de Septembre. Cherries.—Royal Duke, Archduke, Black Tartarian. The three best strawberries for you are Keen's Seedling, British Queen, and La Constante. We must not recommend dealers. Your stations will do admirably.

**EXTERMINATION OF PLANTAINS FROM A LAWN.**—*H. A.* begs to inform *A. B. C.* that a certain and effectual remedy for the extermination of the plantains from the lawn is to put coarse salt on the crown of the plant, and by no means to cut it. It should be done in the afternoon. Of course whenever a stray one comes up, persevere in the salt, but never allow a spud or knife to touch them. *H. A.* has a large lawn, and having entirely destroyed them, as well as the daisies, it is now a most beautiful piece of turf.

**PLANTING OUT A VIEW UNDER TREES.**—*A. B. S.*—The best way to block out the objectionable view will be to plant under the trees box, privet, *Taxus canadensis*, red dogwood, and common green holly. In front, if there is anything like an open space, plant aucubas, variegated hollies, common juniper, and Chinese privet, which bear *partial* shade well, but never so well adapted for being completely shaded as those first mentioned. Three years ago a poor man asked our advice about planting out an obnoxious view by means of some sort of undergrowth, and as the shrubs proper for the purpose were beyond his means, we advised him to plant first a lot of dead tree-stumps, four to six feet

high, and then cover them with ivy and Virginian creeper. This autumn we have seen the plantation, and it is a most beautiful affair, and the view through the stems of the trees is completely intercepted.

**VARIOUS.**—*A. B. S.*—Your fern is *Nephrolepis exaltata*, unquestionably the finest fern for the centre of a vase or fern-case.—*J. Symon.*—A vinery will do very well for a few greenhouse ferns; in fact, they may be grown anywhere if safe from frost in winter and roasting sun in summer. Your specimens are—1. Common harts-tongue, *Scolopendrium vulgare*; 2. *Asplenium adiantum nigrum*; 3. *Polypodium vulgare*; 4. *Blechnum spicant*, starved; 5. *Cystopteris fragilis*.—*Irishman.*—It cannot be of any benefit to you for the paper to be published, unless your name and address appears with it, else how are you to obtain the aid you seek? If you write on the supposition that we could receive and transmit, it is a mistake; we could not do it. *Selaginella apoda* would not grow on the outside of your case, but the common *Lycopodium denticulatum* might. The best ferns for you are *Asplenium marinum*, *Scolopendrium vulgare*, *Adiantum cuneatum*, and *assimile*, *Lomaria antarctica*, *Doodia caudata*, *Cystopteris fragilis*, *Polypodium cambricum*, and *Lastrea spinulosa*. All these are cheap, and may be obtained of any nurseryman.—*Burford.*—Roses may be rooted in water by taking half-ripe shoots in June and July, making them into cuttings, with a joint at the base, and inserting them in phials of water, and wrapping the phials round with flannel, to exclude the light, and placing the phials in a window. When the joint at the base of the shoot begins to put out little claw-like roots, the cuttings should be at once potted in sandy peat or leaf-mould, and be placed on a gentle bottom-heat. It is a very unsatisfactory way of raising roses.—*T. P. Crickhowell.*—Sigma's hoes are supplied by Mr. Powell, Hurst Green, Sussex. We quite forget who is the maker of the Canterbury hoe; perhaps Gidney, of East Dereham, Norfolk, may know something about it.—*Mrs. A. A.*—The blue flower is *Lobelia ramosus*, the other *Leptosiphon densiflorus*. There is no "pocket-book" on exotic ferns.—*Mrs. D. Rayleigh.*—Probably the patent fuel sold by Carman, of Newgate Street, might answer, or charcoal broken the size of walnuts.

THE  
**FLORAL WORLD**  
AND  
**GARDEN GUIDE.**

DECEMBER, 1863.



IF any of our readers wish to know how to make a fortune, without being mere money-grubbers—how to pursue business without extinguishing every genial sentiment, or becoming sordid in calculations of gain and loss—we advise them to engage in editing a horticultural periodical. It is the best fun ever invented, for all the other realities of life are decked out in romantic habiliments, and an editor goes through life decked with a kind of “delirium trimmings,” while he is at the same time as prosaic an individual as the aged dame who obtains her bread by turning a mangle. A periodical is only another kind of shop whereat there is something to be sold—say at the figure of fourpence—yet all the customers come with the smiles of friends; and while you take their money, and order a new carriage, and commission Mr. Equestris to buy a stud of thorough-bred greys, you are in the attitude of a favourite at an evening party, and all you say and do is intended to set other people saying and doing, so that out of the playful tattle there may be eliminated as much real wisdom as will suffice to give excuse next day to speak of the affair as “a feast of reason and a flow of soul.” This **FLORAL WORLD** is nothing more nor less than a commercial commodity; those who don't like it don't buy it—those who do like it pay for it; and there is an end to the matter as to the business of the shop. Yet the chink of the money is music to both parties, and we shame all the rest of the world's buyers and sellers by shaking hands with each other, and taking mutual interest in each other's affairs. It is said—and it is not for us to gainsay it—that the **FLORAL WORLD** is the best book ever yet produced for people who really love gardening, and wish to pursue it as a recreation out of which may be extracted both commercial and intellectual profit; and there is a very general desire to put on our unworthy heads a wreath of laurel, in token of appreciation of our labours by thousands and thousands of readers. There can be no doubt this is a very admirable publication. While we have it to sell, we must follow the good old rule of crying up our own wares, even if we abstain from that other rule of crying down other people's. But our great modesty compels us to

decline the laurel wreath, and be content with the fourpence—for this very proper reason, that it is the customers who deserve praise for the success of the undertaking, and if there is to be any sort of testimonial, it must go to our readers, and not to us. Just look back on the pages published during the past twelvemonths, and see how the readers of the work have contributed to it, not only their pence, but their experiences. There was never wanting among the friends of this work those who were both able and willing to add to the stores of horticultural knowledge; and if it had not been so, we should long ago have been found out to be but poor fallible flesh and blood; whereas, by their aid we keep our position of presumed infallibility, and perpetuate on our own counter a greater delusion than the Ghost, or the Crystal Globe, or the profession of fraternity with gorillas. Once we had to ask the timid ones to speak, and they did speak; now we have to thank them for the aid they gave us, and to hope that amongst our myriad supporters there remain still a few who might follow the example set them, by contributing to the shop some part of the stuff they intend themselves to purchase. Not that we are ourselves worn out. No. We are about fifty years younger at the end of six years' work in these pages than when we begun. Being younger, we have more enthusiasm, and, *per contra*, have more to learn, and shall set about learning it if our friends will continue to shower in their fourpences, just to keep us at school.

If any of our readers could peep into our budget, and see what new things we have in store for them, what revelations we intend to make, what excellent vegetarian dishes we are about to provide for their intellectual digestion, they would rush off to their booksellers and multiply their orders by fifty, on the principle that one cannot have too much of a good thing. But we will take our risk about the circulation; it has always been brisk enough to keep our toes warm; and so, smiling at the office door like polite shopkeepers, we bethink ourselves of the compliments of the season, and once more wish all our readers and contributors  
A MERRY CHRISTMAS AND A HAPPY NEW YEAR.

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### WATER SCENES.

WHEN I pass a print-shop on a frosty day, I inwardly condemn the man to death who persists at such a season in exhibiting pictures of nymphs or naiads, or any of that class of creatures, dabbling their pretty feet in crystal streams, or wading chin deep in blue lakes that make one shudder. Printsellers have no feeling for mankind, else they would never torment people who peep into their windows with pictures of nude Venuses shivering on slippery oyster-shells when the wind is in the east, and if your nose touches the window-pane the sensation is like having the tip suddenly shortened by a razor—any more than they would hang up representations of blazing forges, and burning mountains, and interiors of lime-kilns in the month of July, when you wish you were a dog, only that you might go along with your tongue out, and take a sip at every puddle or horse-bucket, to preserve the palate from a state of incandescence. So it may be quite out of season now to talk of water scenes; and we cannot so much as put a title to this paper



without first casting all the blame on our "esteemed correspondent," Jemima Wells, who says she will have a pond in the garden, though she does not know where the water is to come from, nor how it is to be kept when obtained, nor whether it should be in the main walk, on the grass-plot, or on the top of the mound which faces her bed-room window. Now, nine-tenths of our time go to the service of the ladies, and the other tenth to charity; so it will be according to custom if we try to help Jemima with half-a-dozen words of advice, and defy all the masculine readers who want to know about roses, fruit-trees, orchids, and other such rubbish.

If we had a plan of Jemima's garden, showing all the levels, we might indicate the precise spot for an ornamental pond, and on the other hand we might fail to indicate the precise spot through sheer ignorance of the nature of the surrounding scenery. We must, therefore, deal with the subject in a general way, and say first of all, that water may be introduced in any part of a garden or wilderness; but the *way* in which it is done must be determined by the nature of the locality. Suppose the possessor of a garden wishes for water at the summit of a hill, then if he would have a pond or a lake, the chances are in favour of the affair becoming a source of merriment to critics of landscape. But a bubbling fountain would be very appropriate to the top of a hill, and not long since we sat beside a crystal spring on the brow of a heathy eminence at Oakshott, in Surrey, and counted the species of plants the water had coaxed there. Natural springs frequently emerge on high grounds, and in a grand garden the charm of a fountain on the side or summit of a hill may be made quite appropriate, even if the water supply for it has to be secured by artificial appliances, such as the working of a ram at some distance off, and the conveyance of water to the spot by pipes under ground. Once get the water up there, provide a stone receptacle for it, and lead away all overflow in the form of a rivulet, and nature will soon plant the margins of the fountain and the rill with curious wild flowers, and the birds of the district will make the spot a favourite haunt for bathing, drinking, courting, and of course for morning and evening concerts. The fountain on the hill at Oakshott flows over a rough oak cistern, fixed there by the villagers to preserve a depth of water for dipping. It is almost hemmed in on three sides with tangled vegetation, most of it lovely and rare, and the shallow rivulet it makes in its course down the hill is completely matted with sundew, lichen, lycopodium, scutellaria, bog pimpernel, and other of the choicest vegetation of heathy bogs. If it could be transferred with all its accessories to some great garden it would be considered one of its choicest features, and perhaps attract more visitors than it might be convenient to admit gratuitously. So if Jemima wishes for water at the top of her favourite mound, it must be in the form of a fountain, and she may indulge her fancy to any extent to make it grotesque, picturesque, or severely simple.

In the main walk water is equally admissible, but then we must have an architectural fountain or basin. The style of the house, the terrace, and the grounds must determine the style of the fountain. If the house is a very plain edifice and the grounds would need to be described as "neat" rather than "grand," we should prefer a plain stone moulding, a few graceful curves, and trust more for effect to the sparkle of the water and the grace of the accompanying vegetation than to sculpture or fanciful

rockeries. A fountain in a main path, within view of the drawing-room windows, or readily accessible from the house by a short walk, should certainly present itself to the eye in a very distinct form, and should constitute a feature in the scene. If so small as to be invisible until the visitor almost tumbled into it, and so mean in character as to have no more dignity than belongs to an accidental detail, every person of cultivated taste would condemn it as an absurdity. If too grand for the place it would be equally absurd; in fact, if it cannot be well done, as circumstances require, it should not be done at all, for paltry waterworks are more obnoxious than paltry earthworks, and betray more quickly whether lack of means or lack of taste is to be accredited with the failure.

Rustic waterworks may be introduced in rustic scenes very appropriately, but to dispose rustic forms and proportions with propriety and effect demands quite as much taste and judgment as the plan of a grand architectural fountain. If a supply of water can be obtained for a portion of the ground appropriated to ferns, rockeries, and green recesses, it can be made much of, both for the greater display of the sparkling stream and for assisting such of the plants as require it, by leading it about in the form of a rivulet down a succession of cascades, terminating in a rocky pool at the outlet, and this rocky pool may be made bewitchingly beautiful by planting it with bur-reeds, flowering rushes, lady ferns, osmundas, arundos, and other aquatic of graceful forms and luxurious habits. Happily for the possessors of villa gardens there is no need to call in an architect or engineer for advice on any waterworks of moderate pretensions, for the fitting of a fountain, according to the laws of hydrostatics, is a matter within the capacity of any respectable plumber, and Mr. Frederick Ransome, of Ipswich, will supply, in imperishable stone, fountains, basins, and statuary in any and every style, from the most severely classical to the most grotesquely rustic, and sheets of patterns may be obtained through the post by asking for them, and supplying a stamp to frank them through. In "Rustic Adornments," which Jemima of course possesses, we have given some rules for the introduction and use of water in scenery, and to that work we must refer those who wish for more information than can be given in a magazine article. But it may be well here to say, that for a fountain there must be a reserve of water at a higher level than the fountain itself. In London this is easily accomplished by constructing a cistern in some elevated part of the residence, and securing a supply to it from the ordinary water-pipes. Then from the cistern there must be another service to the fountain. If the house is far removed from the fountain, it will be better to place the cistern on the summit of a tower, shed, summer-house, or other structure, as the longer the supply-pipe the more will the play of the fountain be lessened by friction; for though water will always rise in a pipe to the level of the point of departure, it requires time to do so, and friction reduces the rapidity of the flow, and hence the force with which a fountain will play cannot be determined solely by the difference of altitude between the jet and the cistern. If the supply-pipe is one hundred yards in length, the height of the fountain will be reduced one foot below what it would attain if the supply were close beside it. Suppose that, according to the respective levels of the jet and the cistern, a fountain ought to rise ten feet, we have only to remove the cistern to a distance of one thousand yards to

nullify the whole effect of the descending force of the column of water, and, consequently, destroy the jet altogether. To determine the adjutage is easy enough by experiment with a leaden nozzle, which can be pressed or opened to the dimensions found to suit the circumstances, and this course is absolutely necessary where the engineer has no ready means of ascertaining the power of the head. As a rule, the adjutage, or opening of the pipe, should be one-fourth the size of the pipe itself, but every fountain should be supplied with a series of adjutages to produce different forms of jets, as the force of the head may vary, or as the caprice of the possessor may determine.

To increase the force of a fountain it may be placed at a comparatively low level, yet the lower the level the less is its dignity, and it is generally much better to adapt the head to the level than the level to the head, for a fountain constructed with taste is too expensive and important an affair to be placed anywhere but in a conspicuous position, that is if it is to form any part of the garden scenery. Once set the stream flowing, and it may be turned to many uses after it has splashed and glistened in the form of feathers, baskets, parabolas, and true lovers'-knots; the outflow may be arrested at points where water is required for strictly horticultural purposes, to save that everlasting fetch-and-carry which is the bane of many an otherwise good garden, and after that the wilder parts of the ground may have the benefit of a rill where watercresses would grow and the robins would wash themselves.

But after all this we may not have answered Jemima's question; but the fault will be hers, not ours, for she leaves us to guess at the data, which none but her can supply. It is a case of circular sailing, in which you know a ship first goes some thousands of miles out of her way in order to avoid adverse currents or icebergs, or to get round the earth in a direction of its least circumference, and so in the end actually gain by losing. So by circular sailing perhaps we may yet arrive at the port to which Jemima directs us, and with this hope we will now take to ponds, which are not held in much esteem by earnest navigators. A pond, Jemima, is nothing more nor less than a great hole filled with water. Your gardener can make one for you with the help of a few labourers; and as gardeners are not constantly in practice at pond-making, a few advices from our pen may be received by him complacently, especially if you tell him it was at your request we undertook the subject.

There is only one position proper for a pond in a garden, and that is somewhat remote from the house, and on the lowest level of the place, where it will naturally receive much of the rainfall. A pond is a miniature lake; it must be in the natural style, no matter what its size or shape, and hence costly architectural accessories are not needed. In choosing a site for the pond, give preference, if possible, to a position where two or more walks meet at the junction of the dressed grounds with the wildest portions of the scenery. In marking out the boundary, throw the greatest extent right and left of the principal approach to it, or the principal view of it. Suppose, for instance, that the walks lead from the terrace or dressed lawn through a belt of evergreens towards the wilderness, at some point in this progress the pond will appear in the scene; and on the side next this approach it should be so extended as to show the greatest possible extent; and the whole of the planting of a

nature to obstruct the view should be on the margin most remote from this first and principal view.

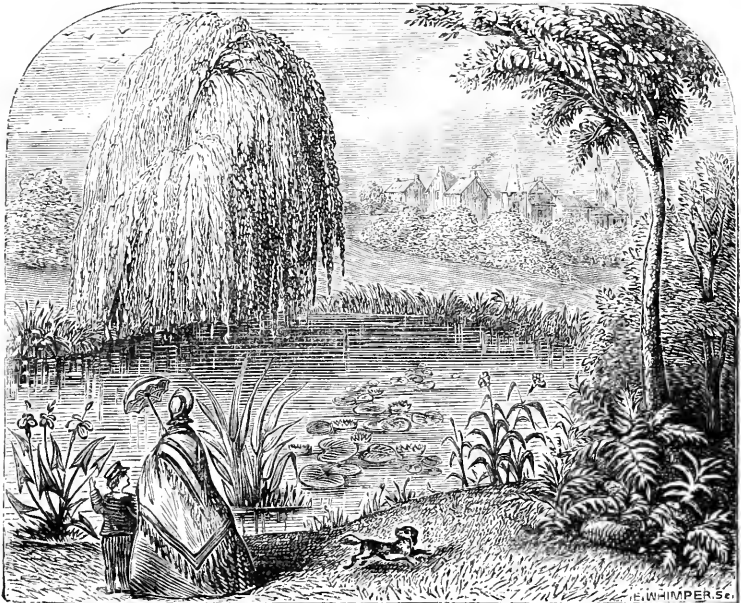


Fig. 1.



Fig. 2.

Suppose our principal view is from A (Fig. 1), which we will consider to be the site of an elevated part of the lawn, to which we resort for a view of the country. If the pond extends its greatest diameter from B to C, the eye has the fullest range of its boundaries—none of its extent is lost. But suppose the longest diameter happens to be as in Fig. 2, then, however spacious the extent of water, it is foreshortened to the eye, and appears paltry. But to destroy the severe formality of right angles, the general direction of the foreshore may be oblique to the line of



vision, without loss of space, provided the obliquity is not at a low angle, and the form of the whole is irregular. This may be illustrated by a sketch from a pond made by us, a few years since, in a garden in a very pretty western suburb. Instead of a circle or a square, we bent the pond round upon itself, so that the whole extent cannot be viewed from any one point. The margin next the principal view was left quite open, so as to allow the whole of the surface of the water to impress its character on the scene. The planting on the open side was arranged so as to partly

obstruct the view of the distant village, which now appears as if set in a frame-work of leafiness.

We must not now attempt to describe the style of planting, or the various materials available for such work, because we have already exceeded the limits we assigned ourselves for a few considerations of general interest. But we will return to this subject next month, and endeavour to throw further light upon it. But it is needful that a few practical remarks should be made in reference to the earth-work of a pond. When the site, size, and shape of the pond have been determined, a dead level must be marked on stakes placed at a few points of the boundary, and to this level all work must be regulated, no matter what the intended depth, or what the variations of that depth in different parts of the same pond. We can illustrate the necessity for making a dead level by a case that lately came under our observation. A landscape-gardener marked out a place for a pond in a very pretty place he was engaged in planting and decorating, and the superintendent of the works, a man well experienced in every branch of horticultural industry, trusted to guess-work instead of using a spirit-level in taking out the stuff for the pond. The result was, that when the first heavy rainfall came the pond filled, and was about one inch deep at one end and five feet at the other. It had to be emptied, the outfall pipe raised, the bottom lowered, and the whole of the banks lowered from nothing at the deep end to five feet at the shallow end, which you may be sure was a much severer task than first lowering it properly would have been. Suppose the workman makes an excavation, supposing he is working to a dead level, and the result is the line A B.



Now let the water into the pond, and the result is the line C D. Under some circumstances it would appear as if the water in this case lay all aslant. This necessity for a dead level is a separate affair altogether from the scenery of the banks; for the banks may rise into knolls, steeps, mounds, or what else, with the greatest propriety, and, in fact, it adds very much to the beauty of a sheet of water if it is enclosed on one side by shelving banks and rising grounds; but these may all be considered in the first instance in relation to the dead level, which the water will always present, and the excavation for a pond must be conducted with a view to that dead level from beginning to end.

Another matter calling for remark is, as to supply and waste. If placed in the lower part of the grounds, at the time the drainage is effected, all the drains can be made to converge to one main, which will convey the water to the pond. The outflow should be on the opposite side, to convey the water to a lower level. The level of the water will be determined by the position of O, the outfall, and this will be deter-



mined by the highest point to which the supply S can be carried, and this highest point must of necessity be the lowest in the whole set of drains in communication with S. The larger the pond the greater must

be the difference between the level of the supply S, and the outfall O. If these approximate too closely to a dead level, then the flow will be so sluggish that the water will soon get foul. There is always one resource available for remedying defects of level or supply, and that is, to raise or depress O, so as to quicken or slacken the flow of water towards it, and to secure the possibility of altering O at any time, there should be a quick fall from the outlet to the drains, brooks, ditches, etc., etc., that are to receive the waste.

S. H.

## EXHIBITIONS OF CHRYSANTHEMUMS.

ALTHOUGH we have had such a delightful summer, which has brought us an almost unprecedented abundance of general crops, the season has not been considered by chrysanthemum growers favourable for that particular flower; and the reason of this is, that the dry weather which occurred during the early part of the summer was just at the time when the chrysanthemums make their most vigorous growth: they were therefore kept in check, and at last made their growth so late, that many plants which usually open in the early part of November have refused to bloom at all, and the buds have rotted off when half expanded. This has been the case very generally round London, and only those who have greenhouses and fire heat at command (which makes them to a certain extent independent of the season) have been able to get their flowers properly bloomed in time for the metropolitan shows.

The cultivation of the chrysanthemum has, however, received a great impetus by the formation of the Amalgamated Metropolitan Chrysanthemum Society, who have made the experiment of a monster chrysanthemum show, which took place at the Agricultural Hall, Islington, on November 11, 12, and 13, and proved a very fine and successful exhibition. The building is admirably adapted for a promenade, and the London public are indebted to the promoters of the scheme for establishing an agreeable festival at the dullest period of the whole year. The music provided was in good taste, and well adapted to the occasion; the grand organ played its part at intervals,

several volunteer bands performed during the day, and each evening an excellent concert of vocal and instrumental music added to the enjoyment of the visitors. The display of plants and flowers was, perhaps, as fine as has been ever brought together under one roof. The plants were staged on long tables running almost the entire length of the hall, with wide spaces between for promenading; along each side of the hall was a fine bank of palms, ferns, and other plants with ornamental foliage, which had been kindly furnished for decoration by various nurserymen. The cut blooms were arranged on long tables in the galleries; these were staged in great numbers, and generally with considerable skill, most of the stands being selected with good judgment, and the individual flowers placed so that they displayed each other's beauties to the greatest advantage. Both plants and flowers were mostly very fresh, and admirably produced. In the former department the gentlemen's gardeners occupied the foremost position; but the amateurs were not far behind. The finest collection of six plants in the whole exhibition were those shown by Mr. Glover, gardener to R. C. Lepage, Esq., Tulse Hill, Brixton; they were grown as bushes, and were marvels of excellent training and profuse blooming. Prince Albert, in this lot, was a marvel of colour, and conspicuous for its beauty; Chevalier Damage was a mountain of gold; Dr. Maclean a superb mottled rose; Vesta, Jewess, and Trilby were all fine examples of perfect cultivation. Mr. Howe, of Stoke Newington, exhibited a superb

specimen plant of Lady Harding, covered with beautiful blooms, proving beyond a doubt that this variety is one of the best which has yet been raised. The specimen plants of pompones were very excellent, Mr. Ward (gardener), of Tottenham, and Mr. Parker (amateur), of Stratford, producing the finest specimens. Among the nurserymen, Mr. Forsyth, of Stoke Newington, took the lead both with plants and blooms; a magnificent specimen of Lady St. Clair being especially worthy of admiration; and Mr. Oubridge, of Stoke Newington, had a fine plant of Beauté du Nord, which was conspicuous among the highest-coloured varieties by its glow of fiery crimson.

The collection of plants which most particularly claimed universal admiration was Mr. Whitbread's group, staged for effect. It comprised six standards and about a dozen pyramids and bushes, and was unquestionably the best display of the kind ever yet accomplished. They were grouped with admirable taste and skill, and formed such a brilliant mass of colours, that they were conspicuous from every part of the building. The varieties were: *Standards*—Mustapha, St. Thais, Antonius, Hélène, Cedo Nulli, and Bob; *Bushes*—Antonius, Queen, Alma, White Christine, Mad. Eugène Domage, Salomon, Gen. Canrobert, and Hélène.

At Stoke Newington the society maintained its reputation for always having the leading local exhibition of the season. It was the seventeenth show of the oldest Chrysanthemum Society, and was, all things considered, worthy of its predecessors. Here may be always found some of the best plants and blooms of the season, and perhaps the largest collection of really beautiful cut flowers to be found at a local show. One of the most interesting features this year was brought out by the extra prizes offered by Mr. Shirley Hibberd for the new varieties since 1860. These prizes had the effect of bringing to the show magnificent plants of Lord of the Isles, Lady Harding, Lord Ranelegh, White Christine, Orange Perfection, Draco, Golden Eagle,

Rifleman, The Globe, and Lady St. Clair, and of establishing their reputation as thoroughly first-class and desirable varieties.

The South Essex Chrysanthemum Society held their exhibition at Rokey House, Stratford, on Nov. 16, and it was highly satisfactory in every particular. This society makes itself conspicuous by the great perfection to which its members bring their standard pompones. There is always a long row of them standing down the centre of the room—strikingly beautiful objects, rivalling in beauty the finest standard roses. No other society we visit can produce such standards as the growers round Stratford, who take an honest pride in this department of their exhibition.

But perhaps the society at Brixton know best of all how to make a chrysanthemum show thoroughly attractive and charming. This they effect by showing with the chrysanthemums, stove and greenhouse plants, etc., and fruit; the manner in which the exhibition is conducted being deserving of all praise. The present season's display, which took place on the 17th and 18th November, was decidedly superior to any of its predecessors. The large room of Christ Church Schools, Brixton Hill, was appropriated to the plants and flowers, and the small room to fruit and vegetables. At the end of the large room opposite the entrance, the specimen pompones were staged upon a raised gallery occupying the whole end of the building, and made a gorgeous mass of colour. Along each side of the room were tables covered with crimson cloth, upon which the large flowering chrysanthemums and stove and greenhouse plants were placed in alternate groups, looking very beautiful by contrast. A broad table along the centre of the room was set out in the following manner:—Down the middle was placed a row of tree mignonettes, which diffused a refreshing fragrance over the room; on each side of them were rows of beautiful pyramid pompones, and outside these the cut blooms and a large number of beautifully bloomed plants of *Primula Sinensis*: the whole

room had a very beautiful appearance, viewed as a whole, and the individual objects exhibited were of very high merit. The chrysanthemums were all that could be desired; and among the stove and greenhouse plants we noticed excellent collections of Begonias, and fine examples of Croton longifolia variegata, Caladium Chantini, Pandanus variegatus, Pteris argyrea, Dracæna terminalis, Cissus discolor, Cyanophyllum magnificum, Maranta zebrina, and a lovely specimen of Lycopodium erecta, besides five plants in bloom of Zygopetalum Mackii, Allamanda Schottii, Acacia pleroptera, Cypripedium insignis, Cattleya Harrisonii, Cypripedium venustum, and Phenocoma prolifera Barnesii. Among the fruits there were first-rate specimens of Apples—Sturmer pippin, Russet, Blenheim orange, Wellington pippin, Royal russet, Five-crowned pippin, Ribston pippin, Alfreton, Fearn's pippin; Pears—Incomparable, Chaumontel, Brown beurre, Cassante de Mars, Gansell's bergamotte; Grapes—Black Hamburg, Black Prince grown out of doors, Chaptal; Melon—Golden egg, etc.

The Temple Gardens were as gay as usual at this time of the year, Messrs. Broome and Dale having done their utmost to make a fine display for the entertainment of the crowds of Londoners who annually honour them with their presence. Mr. Dale's little garden is admirable in every respect, and glows with masses of brilliant colour. Mr. Broome's display in the open ground is not so good as in former years; but his border of specimen plants under canvas is very fine, having a profusion of all the best show varieties, mostly in very good condition. Mr. Dale's display in the open ground is remarkably good; the bank which skirts the east side and head of the garden presents a grand display of colour; the disposition of the plants, rising from pompones in front to giants of seven or eight feet high at the back, and the effective combinations and contrasts of colours, are all worked out in a masterly manner, and prove that Mr. Dale's taste

is quite in keeping with his experience.

The varieties which have been most extensively shown this year at the various exhibitions, and which may therefore be termed the favourites of the season, are: *Plants, large varieties*—Dr. Maclean, Trilby, Jewess, Vesta, Prince Albert, Chevalier Domage, Beauté du Nord, Defiance, Alma, Christine, Golden Christine, White Christine, Insigne, Rifleman, Arigena, Annie Salter, Pikt, Lord Ranelagh, Draco, Queen of England, Lord of the Isles, Lady Harding, Orange Perfection, Golden Eagle, The Globe, Lady St. Clair. *Pompones*—Cedo Nulli, Golden Cedo Nulli, Lilac Cedo Nulli, Duruflet, Gen. Canrobert, Canary Bird, Mrs. Hutt, Salomon, St. Thais, Attila, Andromeda, Helene, Surprise, Bob, Mrs. Dix, Madame Pepin, Madame Carnac, Mr. Astie, Reine des Anemones, Antonius, Astrea, Perle, Marguerite de Wildemar, Madame Chalonge, President Morel, Brilliant, Rose Trevenna, La Sultana, Trophee, Aurora borealis. *Cut Blooms, large varieties*—Nonpareil, Novelty, Raymond, Dr. Brock, Lysias, Gen. Slade, Queen of England, Alfred Salter, Bacchus, Jardin des Plantes, Alarm, Lucidum, Rifleman, Dupont de l'Eure, Lord Elgin, Beverley, White Formosum, Little Pet, Yellow Formosum, Ion, Antonelli, Anaxo, Chinese Orange Incurved, Arigena, Cassandra, Themis, Plutus, Favourite, Her Majesty, Helen Lindsay, Fabius, Hermine, Golden Hermine, Christophe Columb, Aimée Ferière, Golden Trilby, Goliah, Beauty, Lady St. Clair, Madame Andry, Cherub, Glory, Nil Desperandum, Mrs. Wm. Holborn, Cassy, Golden Eagle, Miss Kate, Sylphide, Gen. Harding, Lady Harding, Penelope, Nonpareil, Alarm, Favourite, Count Cavour, Snowball, White Globe. *Anemone flowers*—Lady Margaret, Louisa Bonamy, Nancy de Sermet, Marguerite d'Anjou, Calliope, Handel, Margaret of Norway, George Sands, Madame Goderau, Gluck, George Hock, Fleure de Marie. *Cut blooms of Anemone flowered pompones*—Madame Sentir, Perle, Astrea, Queen of Anemones,



Mr. Astie, Rose Marguerite, Mad. Montels, Mrs. F. Smeé, Roquelaure, President Morel, Mad. Chalonge, Mad. Carnac, Regulus, Toinette, Antonius, Marguerite de Wildemar.

Mr. Salter's winter garden is this year as interesting and more attractive than ever. It is here that the lovers of the chrysanthemum meet once a year for a grand feast of flowers, and to make notes and comparisons of the progress made in this particular branch of floriculture. Apart from the critical points which arise from the inspection of new varieties, the general display is the most artistic of the kind ever accomplished, and the winter garden presents at the present time a grand picture—the result not simply of a brilliant display of colour, but the combination with chrysanthemums of fine conservatory trees and shrubs, and groups of plants with variegated leaves. Mr. Salter has this year adopted a method of growing chrysanthemums in a much dwarfer manner than has yet been done. Some time during the summer he made the discovery (which, doubtless, many others have also made) that tying up the plants was a great waste of time, and he therefore adopted the following method, to save time: Instead of tying up the stems, he bent them down and inserted a few pegs to keep them close home, and growing round and round the stool. In due time the plants were taken up and potted, and by means of bass the twisted branches are brought round the pot and over the surface, and the result is a squat mass of vegetation of the shape of a common circular hassock. The pot is completely hidden, not a stick is required, and when the flowers open the whole breadth of colour is seen above the green ground-work of the foliage, just as in the best exhibition specimens, but with a thousandth part of the trouble. The number of new seedlings of great merit in Mr. Salter's collection is very considerable. Our visit was a little too soon, as some of great beauty had not yet been named; but as the notes we made may be of some service to our

readers we append them, and commence with Prince Alfred, the finest formed flower after Queen of England, but a sort of Arigena colour, or say lilac-crimson, with whitish reflex. This will be one of the grandest flowers of the race, and admirable for specimens and cut blooms. Venus, large incurved rosy-lilac, or Alfred Salter colour, and evidently a much more massive and telling flower than Alfred Salter—a real gem among the seedlings. Princess of Wales—this is a very novel colour, and a finely-formed flower; the colour may be described as transparent pearly-peach, very fresh and clean, and the florets incurving gracefully; the flower of full size, on stiff strong wood, and an ample and healthy foliage. Lord Clyde is the most striking of all in colour, and is most appropriately named. It will remind the rose-grower of Messrs. Paul's new rose of the same name, and at exhibitions it will rank with Prince Albert, Lord Palmerston, Triomphe du Nord, and others of the high-coloured section, of which the last few years have produced some very fine examples. Lord Clyde is a strong grower, a large, half-globular flower, broad, incurving florets, colour rich deep crimson, with white tips. It is one of the best of the series for 1864. Another good novelty is Bernard Palissy, lively reddish-orange tipped with gold. Wonderful Improved is a great acquisition in the way of colour, and a decided advance on the qualities of its noble parent. General Bainbrigge, cinnamon, incurved, not a showy, but a very high-toned flower, that will cut well and enjoy a leading place. St. Patrick, an improved Dupont. Sir George Bowyer, yellowish-white, and as we think second-rate, but Mr. Alfred Salter thinks it A 1, and we will leave it to the growers to determine between us. Jupiter, rich red with orange points, a remarkably fine flower in every respect, the form superb, and the colours very striking, equal in its way to a prime bloom of Jupiter Dahlia. Yellow Hermine, good; Seraph, primrose, deepening to gold at the centre, extra fine;

Shakspere, bright red; St. Margaret, orange-anemone; Lord Brougham, rosy-purple, fine; Florence Night-  
ingale, rosy-blush; Stonewall Jackson, red; Margaret Vatcher, lively chestnut.

## THE GREAT MYSTERY OF VINE CULTURE.

THE grapes shank—what shall we do with them? The mildew *will* rage in spite of Gishurst, Parmentier, and every other nostrum; *can* an honest gardener sleep at night after a day's worry with the mildew? If he does sleep, it will be to dream of mildew, and feel it adhering to the tips of his fingers, and covering his eyes with a morbid film. Then the vines refuse to grow, or grow at such a rate that there is no chance of the wood ripening; or they die suddenly, as if secretly severed at the root; or the bunches drop prematurely, or they are deficient in flavour when ripened as far as they will ripen. Surely the gods ought to be invoked to aid the man whose duty it is to grow grapes in the midst of all these difficulties. There must be a great mystery in it; for, look you, at such a place not far off, the vines grow as if by magic, they make immense leaves, plump wood, large bunches, the bunches ripen, have a delectable flavour; the wood ripens as hard as flint, and beautifully brown, as if stained by some trickery. Yet there is nothing apparently different in the circumstances of the two houses: they both get enough sun; they both contain good sorts—perhaps the same sorts—but somehow they grow in one and perish in the other. There must be a mystery. Of course there is a very great mystery, mystery of mysteries; and who can fathom it? Suppose we lay in wait, and secretly watch our rival, who seems to be on such excellent terms with the gods who help him. We shall see nothing in particular. To be sure, he gives plenty of air: he never syringes the bunches: he allows the leaves of his vines to shade the fruit; he stops and trains regularly; and in these points there may be much to cause the difference, because we syringe the bunches, in the fond hope of swelling them; we are afraid to give air, for fear of reducing the temperature and risking the ripening; we let the long rods hang about, so as to make one job of the tying, instead of niggling at it perpetually. And yet these little attentions give our favoured rival very little trouble; he appears almost to let the grapes grow as they like; he is never in a fluster with them, never engaged in tankering with strong manures, or fingering the bunches to detect the first traces of blight and shanking. Yet there is evidently a mystery, because though air, and shade, and careful use of the syringe may be of importance, our vines refuse to grow properly, refuse to fruit, refuse to ripen their wood. These minor attentions cannot make all the difference. Let us see—the vine is a gross feeder, all the world knows *that*; so we gave ours lots of dung to grow in, contrived the border should always be moist, and we *did*—yes, we did use a few carcases chopped up in the border. Now, just for the sake of gaining knowledge, we will get our friend Mr. Successful to lift a vine, that we may see what sort of fat stuff his are growing in—fatter it must surely be than the border that refuses to comply with our wishes. Well, there is a mystery certainly: those fruitful vines have nothing at all to grow in; this certainly is an example of the intervention of the gods; no use now to talk about horticulture; let us go to oracles and divinations, and expend a trifle on the arts of magic. When we say they have nothing at all to grow in, we mean, of course, nothing comparatively; the border lies high and dry. What a violation of our well-established postulate of the vine being a gross feeder and a lover of moisture! The materials of the border are mostly hard and tough, such as we should use for the bottom of a

walk, not certainly to grow vines in. Look here—for every spadeful of loam, there is at least a spadeful of broken bricks, flint stones, and sandy rubbish. Ah! bones have been used pretty freely, and the roots of the vines are matted about them, and they run in a thick network among the bricks, and sand, and nodules of old mortar. This is the magic, then,—the vine grows fat on starvation. Would such a result be obtained without the use of abominable sorcery? No! as well expect a man to grow strong and hale on ship's biscuit, oat-meal porridge, or any similar coarse, hard, plain fare, as for vines naturally to luxuriate in such unmitigated rubbish. Just as rich living, luxurious habits, shelter from the exhaustive influences of fresh air, and a renunciation of fatigue as wasteful to the frame, promotes the health and strength of the human system, so deep, damp, unctuous borders, full of good living, *must* be good for vines; and we had better have them fail through circumstances we cannot trace or control, than resort to witchcraft to ensure their growth in mixtures of lime, loam, and sand, and brick-bats. Mr. Successful says his border is only two feet deep; below that it is as hard as a rock with concrete. He says the bottom slopes

away to a drain, so that water cannot lodge among the roots. He says, further, that if the border wants enriching, he can mulch it with dung, and the roots will get enough by percolation to keep them in the fullest vigour. He says, it is air the roots want more than water, warmth more than nourishment; for *his* vines can extract goodness out of old bones, lime rubbish, and burnt clay, just as goats extract nutriment from withered leaves and dead twigs on the barren common. Seeing is believing, certainly; but who will believe that the splendid appearance of Mr. Successful's vines is to be attributed to the causes he cites as sufficient? Not we. Garbage has not been recommended in vain: the vine is a gross feeder. We shall go on in the old track, and hope to discover the causes of failure elsewhere. Such are the experiences and cogitations of Mr. Slowcoach, the unsuccessful vine-grower. Perhaps further reflection and observation may convince him that there is really no mystery in the culture of the vine, and that, so far from sorcery being available, practical common sense is much to be preferred. We will at least wait patiently to see if his opinions undergo a change in the matter.

TEE-TO-TUM.

## HOW TO FORCE FRENCH BEANS.

FRENCH beans are generally grown in pots, and sometimes in boxes; but the best of all plans is to grow them in open beds, nicely warmed, and of sufficient extent to give a regular succession of produce. We will, however, first consider their cultivation in pots; and here, as in almost every other thing, gardeners differ in their practice—some obtaining fine crops in a very off-hand way, while others only attain the same object by a comparatively laborious and unnecessary process. These parties sow their beans in 4-inch pots, five or six beans in each pot, and when they have attained sufficient size (got the first rough leaf), shift them into the larger,

or fruiting pot. For this purpose 11-inch pots are generally used; but for a crop in the depth of winter, if good soil is used, 8-inch pots will be found sufficiently large. The mode of procedure is this:—Having drained the pots, place in the bottom of each a layer of good rotten dung, and then fill them two-thirds full with prepared compost. If the soil is warm, and your plants in a fit state, you may proceed to pot them at once, keeping the seed leaves or cotyledons level with the rim of the pot; but if not, place the pots in the house until the soil gets warmed, and then you may proceed with the potting. The soil should be pretty dry at the time

of using; but, if it is not, do not press it too firmly in the pots, as French beans like a free, open soil, through which they can receive plenty of water, and yet not have it stagnant in the pots. When the soil in the pots gets full of roots, fill the remaining portion. This will be about the time the plants are in bloom, and will add very materially to the swelling of the produce. With beans in boxes much the same treatment is pursued as to draining, soiling, etc. Some persons use boxes of large size, nine to ten inches square: but I have found boxes six to seven inches wide and deep, and three to five feet long, the most convenient for general use, and, with a judicious supply of liquid manure, quite large enough for the purpose. Now, a more expeditious plan is to take the full-sized pots or boxes, drain and fill them two-thirds full with manure and soil, and sow the beans at once where they are to stand, using plenty of seed, so that the strongest plants may be selected and the others destroyed. Another plan is to sow a quantity of beans thickly in a pot or box, and transplant them when of sufficient size; and this is not a bad plan.

The treatment which the plants require is, first, that the temperature should not fall much below 55° during the night; neither is it desirable that it should much exceed 60°; therefore, from 55° to 60° may be considered a suitable night temperature. Through the day, in dull weather, the heat may rise to 65° or 70°, and with the sun heat to 80° or 90°, taking care to keep the atmosphere moist, and, except in the two darkest months, to syringe copiously both in the morning and evening. Some persons object to syringing while the plants are in bloom; but that is nonsense, for I never found daily syringing interfere with a good crop of beans; but you frequently see the want of the syringe result in a troublesome crop of thrips or red spider. As the beans progress in growth, it sometimes happens that

a part of the shoots will become spindly and long-jointed; should such be the case, stop them at once to the lowermost joint—indeed, an occasional regulating with the finger and thumb will add materially to the produce. Water, as we have remarked before, must be plentifully supplied, and weak manure water, especially while the crop is swelling. Ventilation cannot be too copious, either by night or day, so long as cold draughts are avoided; but it must be recollected French beans are scarcely more hardy than cucumbers, and therefore the air giving must be regulated with caution.

Should insects be likely to become troublesome, add some sulphur to the water you syringe with, and for thrips or fly some tobacco-water; for, after all, I find these old-fashioned remedies both cheaper and more certain in their effect than the "Gishurst Compound," which is not to be trusted with tender-foliaged plants. From the preceding remarks, it will be perceived the chief requisite in the successful cultivation of the French bean as a forcing plant is a rich soil, brisk moist heat, and a free circulation of air. With these healthy foliage is a necessity, and free-growing plants are rarely much troubled with insects. On the score of soil it may be remarked, it should be fresh maiden loam. Sometimes the soil of cucumber or melon beds is used; but that is not to be recommended, as in it the plants get full of insects, possibly from ova deposited in the soil; neither do they grow so freely, as in some cases we have seen them refuse to grow in old soil at all, and in one particular instance crop after crop was tried with the same result. A friend of the writer's used to collect mole-hills, and mix the earth with old mushroom soil; indeed, two parts fresh loam and one part the dung of an old mushroom bed, is as good a mixture as can be used for growing this esculent. P.

## ROSE GOSSIP.—No. VI.

## CATALOGUES.

Few things are more calculated to indicate the advance made in floriculture during the last few years, and the still increasing taste for its pursuit, than the elaborate and well got up catalogues issued annually by the great nursery firms. Many of these go far beyond the mere purposes of trade, and abound not only in well-arranged matter for the instruction of amateurs, but display a considerable amount of literary merit, and scientific research. A collection of good catalogues upon various subjects forms so important an addition to a floral library, that at the risk of trespassing somewhat upon the editorial province, and without the design of invidious comparison, I am induced to select some few rose catalogues, which appear to me to possess distinctive features of interest and utility for those engaged in cultivating that popular flower. I should recommend amateurs to obtain them all, together with Mr. Hibberd's treatise on the rose in "Garden Favourites," and Mr. Cranston's little work, "Cultural Directions for the Rose." These, bound up with some pages of blank paper for observations and remarks, will constitute a volume of reference, or *vade mecum*, replete with as much valuable information as can well be required or obtained. It may be as well to premise that all the lists hereafter noticed, have useful cultural directions and remarks prefixed to every section, whether of the summer classes, or continuous bloomers; and that the kinds most eligible for pot culture, pillars, or for exhibition, are pointed out in some special way.

To begin with the lists in the order in which they came to hand, Messrs. Wood and Son's (Maresfield, Sussex) is usually the pioneer, being published early in September. The old-established reputation of this firm is a guarantee for an unexceptionable collection, and one noteworthy feature in their catalogue,

which I wish were generally imitated, is that the number of the nursery tally is affixed to the description of every variety, thereby saving trouble in writing orders, and, what is better, enabling visitors to the grounds to make a tour of inspection at their leisure, without the restraint of an attendant for the purpose of explanation. This season, also, the letter T has been appended to such varieties as have been found, or are likely, to succeed in the vicinity of towns. There is, likewise, a very numerous selection of "teas," many of which are obtainable of a half specimen size, suitable at once for forcing, or growing under glass.

Mr. William Paul's (Waltham Cross), as might be expected from his writings on the subject, is a very complete and able catalogue, in which he has made a closer analysis of the various classes by dividing the H.P.'s into three sections, two of which, Bourbon perpetuals (might be extended I think) and those resembling in character Gloire de Rosamene, are new. Town roses are indicated in this list, and the habit of every variety is pointed out.

Mr. Cranston (of King's Acre, Hereford) has always a remarkably well got up catalogue, of a very extensive collection. H.P.'s and Bourbons are each divided into two sections, according to merit. The habit of every variety is added as part of the description; and a most interesting feature, in which this list is alone, is that the names are given of the *raisers* of the newer introductions. Town roses, however, are unfortunately not pointed out.

Messrs. J. and J. Fraser (Lea Bridge Road) have included their rose list in the general catalogue, though of sufficient importance to form one of itself. This arrangement, however, affords amateurs an opportunity of becoming acquainted with other objects of garden and greenhouse decoration, as well as with

roses. For instance, there is a short introductory article on the cultivation of the plox; a select list of orchard-house trees; and, indeed, eighty-four pages of descriptive letter-press of shrubs, fruits, and flowers, etc., from the most ordinary to the most *recherché*. Here, again, that most desirable feature of specifying town roses by the letter T, has been adopted this season. The collection consists only of the choicest sorts, space being too valuable so near the metropolis to render it worth while to cultivate by-gone or inferior varieties, but the favourites are cultivated in large numbers. There is one point to be gleaned from all these catalogues of particular encouragement to the lovers of the rose, whether they intend to become cultivators, or to replenish their stock, viz., that a considerable reduction has taken place this year in the price of plants.

With the numerous features of excellence remarked upon above, it would appear, perhaps, that little more could be desired on behalf of amateurs, which, indeed, is the fact, so long as the system of alphabetic arrangement is employed. That has, however, always appeared to me a somewhat loose and unsatisfactory basis. Would it not be preferable if a more accurate method of classification could be brought about? Suppose, for example, certain leading kinds, distinct in habit of growth, were selected as types, and their seedlings, and those of similar characteristics referred to them. We might then have, among others, the

robust, upright growers, the long, vigorous growers, the dwarf growers, the slender, free growers, the short-jointed growers, the twiggy growers, etc., and the smooth-wooded kinds, and the kinds with spines like a hedgehog's back, divided from each other, and forming distinct sections, so that if the habit of one of a class were known the rest could be determined, and so adapted for special purposes. There are some styles of growth that never succeed in certain localities. I do not know one, perhaps, of the growth and habit of the "Geant," that thrives satisfactorily close to London. Wm. Griffiths, again, is by no means a successful type to venture upon in unfavourable localities. At present, "free," "vig." and "robust," convey very little reliable idea to those unacquainted with given varieties. Ophire, Jacqueminot, Jules, Victor Verdier, Louise Darzins, Gloire de Santhenay, and others, are all described as "vigorous," yet how different the characteristic growth of each. A similar looseness of description, I have remarked before, pertains to the shape of flowers. It would, however, require greater experience, a longer acquaintance with the flower, and a wider field of observation than falls to the lot of amateurs to execute the task thoroughly. Mr. Wm. Paul or Mr. Rivers might accomplish it, nay, I do not despair even of one day seeing the able and accomplished pen of Mr. Hibberd himself engaged in the undertaking.

W. D. PRIOR.

Homerton, Nov. 11.

## ON SPRING BULBS.—ARUM DRACUNCULUS.

IN the dark of the November days, in murky fogs, and still unceasing rain, we bury our bulbs in the dank earth. Above them shall howl the savage blast, "from thrilling regions of the thick-ribbed ice;" while far beneath them shall the frost-king delve and clutch them in his stony hands. Little semblance bear the rough, hard bulbs to the light

tracery of leaf and stem—to the tints, delicate as the blush of maidenhood, rosy as childhood's cheek, gorgeous as the hues of heaven's prismatic bow—which shall burst from them at the call of spring. Speak they not lovingly to us of our own change—of the time when "the fulness of glory that is to be revealed" shall be unfolded to us by the Great Spirit

who fashioned and sustains alike the planter and the planted?

Blessed memories of childhood, how come ye trooping back at the thought of spring's first flowers!—of eager watchings, while the first green spike of snowdrop and of crocus developed, the one into its timid bloom, the other into its golden blaze, till the tulips spread their Tyrian dyes beneath a warmer sun—of strolls over sunny uplands, across breezy downs, along the winding river, to seek in greenwood shade its primrose stars, to search for violets in the tangled copse, or homeward turn, wreathed with fragrant hawthorn boughs. Well do I love summer's garniture of bloom—dearer to me is the music of colour than the music of sound; but were I compelled to choose, I would sooner surrender summer's lavish wealth of flowers, than give up the sweet, the simple playmates of the joyous spring.

When bulbs are brought into the house, the pots are so filled with roots that it is impossible to insert a stick without destroying many, to the injury of the flowers, and the permanent injury of the bulb for the next season. Yet, in a window, without a stick, beside their untidy appearance, they lop about in all directions, and run the risk of being broken when their blooms are in their finest and heaviest condition. The large flowering seedling crocuses would remain longer in perfection if their tendency to draw to the light was counteracted by merely a single thread round their slender stems. I always adopt a simple but efficient plan. To insert the proper-sized sticks when first potted would occupy too much time, and many get broken before the pots are taken up. I take from a bundle of firewood the straightest pieces, and fix one in the middle or side of the pot, in the place the sticks will occupy when the plants are in flower. Then, before being placed in the window, the wood is removed, its place filled with mould and a slender stick, which, being smaller than the wood, allows a trifle more room for the roots.

*Arum Dracunculus*, though quite

hardy, is most effective as a pot plant. It grows three feet in a six-inch pot, perfectly erect, requiring no support; a North-American tuber of the earliest possible culture, yet of a striking tropical appearance. I think it only requires to be known to be extensively cultivated. Your correspondent "Window Gardener," in last number, might add this to his list, as the growth is as quick as the hyacinth. To give more room for the roots, I raise the earth above the pot, both for this and other bulbous plants, and press it firmly in the shape of a cone; this prevents them from rising and from getting waterlogged when plunged. Two inches will be sufficient to sink the pot in the plunging material. As it stands in a saucer of water, the raising of the earth above the pot causes no inconvenience in watering. For about nine inches it grows in the shape of an extinguisher, and about the same size at the base. At this height the leaves unfold, on long stalks, divided, and bearing a close resemblance to a palm. The whole length of the stem is spotted like a snake, and if the grower has sufficient patience to leave it out of doors till the leaves begin to unfold, it will be much better coloured than if grown in the house from the first. The leaves keep opening one above the other, on alternate sides, and at the top is a long, dark crimson-velvet flower, from the centre of which rises a black stem. After blooming it can be turned out of the pot to ripen in the open ground; but wherever grown it must be sheltered from the wind, as it is likely to snap the stem, and it shrivels up the leaves. Its utter dissimilarity to any other plant, and its exotic mode of growth, arrest the step of many a passer-by. Even the children ask "when the palm tree is coming;" for, ere they are "worn and hackneyed in the ways of men," I have taught them my own love of horticulture—purest of all pleasures. And perhaps in after years, when in life's stern struggle the eye grows weary and the heart grows faint—as some familiar fragrance floats past upon the vagrunt breeze; or some remembered

bloom recalls the joys, the freedom beneath the sod, full oft has said,  
of their early days—they may say, as “Blessed be God for flowers!”  
one who haply then may be at rest *Depford.* JAS. W. DEAN.

A SIMPLE PLAN OF BLANCHING ENDIVE.

Put the heads of the endive plant under the ground, choosing rather a dry situation, and leave the roots a little above the surface, to show where the plants are. In three weeks the heads will be perfectly white, and fit for the table. This plan has been tried with success for a few winters.

*Sunninghill.*

\* \* \*

DECEMBER, 1863.—31 DAYS.

PHASES OF THE MOON.—Last Quarter, 3rd, 0h. 1fm. after.; New, 10th, 8h. 24m. after.; First Quarter, 17th, 11h. 46m. morn.; Full, 25th, 2h. 50m. morn.

| D   | Sun rises. | Sun sets. | Moon rises. | Moon sets. | Weather near London, 1862. |       |              |      | Rain. | THE COUNTRY.              |     |                          |
|-----|------------|-----------|-------------|------------|----------------------------|-------|--------------|------|-------|---------------------------|-----|--------------------------|
|     |            |           |             |            | BAROMETER.                 |       | THERMOMETER. |      |       | The Garden and the Field. |     |                          |
|     | h. m.      | h. m.     | Aft.        | Aft.       | Mx.                        | Min.  | Mx.          | Min. | Me.   |                           |     |                          |
| 17  | 45         | 3 53      | 10          | 5 11       | 24                         | 29.64 | 29.51        | 46   | 31    | 40.0                      | .00 | Plane leafless.          |
| 27  | 47         | 3 52      | 11          | 9 11       | 46                         | 29.53 | 29.52        | 51   | 39    | 45.0                      | .00 | All deciduous trees      |
| 37  | 48         | 3 52      | Morn.       | After      |                            | 29.68 | 29.60        | 50   | 43    | 46.5                      | .03 | Dandelion fl. [leafless. |
| 47  | 50         | 3 51      | 0 15        | 0 26       |                            | 29.88 | 29.72        | 51   | 33    | 44.5                      | .01 | Common groundsel fl.     |
| 57  | 51         | 3 51      | 1 21        | 0 45       |                            | 29.93 | 29.91        | 53   | 49    | 51.0                      | .05 | Shepherd's purse fl.     |
| 67  | 52         | 3 50      | 2 31        | 1 9        |                            | 29.98 | 29.83        | 56   | 45    | 50.5                      | .17 | Annual meadow grass      |
| 77  | 53         | 3 49      | 3 43        | 1 36       |                            | 29.97 | 29.92        | 59   | 39    | 49.0                      | .16 | Verrucaria fl. [fl.      |
| 87  | 55         | 3 49      | 4 56        | 2 9        |                            | 30.06 | 29.92        | 48   | 37    | 42.5                      | .00 | Endive-leaved cono-      |
| 97  | 56         | 3 48      | 6 8         | 2 51       |                            | 30.07 | 29.85        | 52   | 37    | 44.5                      | .34 | myce fl.                 |
| 107 | 57         | 3 49      | 7 19        | 3 41       |                            | 29.83 | 29.52        | 56   | 27    | 41.5                      | .00 | Fringed Bornera fl.      |
| 117 | 58         | 3 49      | 8 22        | 4 48       |                            | 29.93 | 29.61        | 50   | 30    | 40.0                      | .18 | Thelotrema fl.           |
| 127 | 59         | 3 49      | 9 13        | 6 3        |                            | 30.23 | 30.15        | 46   | 28    | 37.0                      | .00 | Polyanthus fl.           |
| 138 | 0 3        | 49        | 9 53        | 7 21       |                            | 30.01 | 29.87        | 47   | 25    | 36.0                      | .11 | Spiloma.                 |
| 148 | 1 3        | 49        | 10 28       | 8 45       |                            | 30.31 | 30.26        | 49   | 26    | 37.5                      | .00 | Wallflower fl.           |
| 158 | 2 3        | 49        | 10 55       | 10 5       |                            | 30.34 | 30.26        | 42   | 27    | 34.5                      | .00 | Targionia fl.            |
| 168 | 3 3        | 49        | 11 19       | 11 24      |                            | 30.28 | 30.24        | 44   | 42    | 43.0                      | .00 | Graphis strieta fl.      |
| 178 | 3 3        | 49        | 11 43       | Morn.      |                            | 30.24 | 30.18        | 52   | 28    | 40.0                      | .08 | Glaucous riccia.         |
| 188 | 4 3        | 49        | After.      | 0 40       |                            | 30.29 | 29.85        | 52   | 41    | 46.5                      | .00 | Christmas rose fl.       |
| 198 | 5 3        | 50        | 0 33        | 1 54       |                            | 29.72 | 29.69        | 48   | 36    | 42.0                      | .00 | Hepatica fl.             |
| 208 | 5 3        | 50        | 0 59        | 3 6        |                            | 29.58 | 29.48        | 43   | 34    | 38.5                      | .00 | Mistletoe berries ripen. |
| 218 | 6 3        | 51        | 1 31        | 4 16       |                            | 29.93 | 29.80        | 42   | 33    | 37.5                      | .01 | Striped-leaved lauris-   |
| 228 | 7 3        | 51        | 2 9         | 5 22       |                            | 30.10 | 29.93        | 41   | 34    | 37.5                      | .11 | tinus fl.                |
| 238 | 7 3        | 52        | 2 55        | 6 21       |                            | 30.08 | 29.99        | 47   | 36    | 41.5                      | .01 | Shining-leaved lauris-   |
| 248 | 7 3        | 52        | 3 46        | 7 13       |                            | 30.19 | 30.15        | 48   | 42    | 45.0                      | .01 | tinus fl.                |
| 258 | 8 3        | 53        | 4 44        | 7 58       |                            | 30.27 | 30.24        | 55   | 37    | 46.0                      | .00 | Furze fl.                |
| 268 | 8 3        | 53        | 5 46        | 8 34       |                            | 30.29 | 30.14        | 50   | 30    | 40.0                      | .00 | Upright lauristinus fl.  |
| 278 | 8 3        | 54        | 6 49        | 9 2        |                            | 30.36 | 30.23        | 52   | 45    | 48.5                      | .00 | Eider ducks arrive.      |
| 288 | 8 3        | 55        | 7 53        | 9 28       |                            | 30.07 | 29.87        | 55   | 45    | 50.0                      | .18 | Holly beautiful.         |
| 298 | 9 3        | 56        | 8 56        | 9 51       |                            | 29.51 | 29.40        | 50   | 32    | 41.0                      | .01 | Laughing geese arrive.   |
| 308 | 9 3        | 57        | 10 11       | 10 12      |                            | 29.63 | 29.41        | 52   | 28    | 40.0                      | .00 | Gray plovers depart.     |
| 318 | 9 3        | 58        | 11 6        | 10 31      |                            | 30.20 | 30.03        | 48   | 36    | 42.0                      | .00 | Grossbeaks arrive.       |

PROBABLE WEATHER IN DECEMBER.—The last month was generally fine, warm, and dry, as we anticipated. During the present December we expect much unpleasant weather, and some frost. From 1st to 7th, mild, damp, wind S.W. to N.W. Thence to the end of the month, much rain, changing to frost, with wind N.E., and then to snow and rain again. At Christmas, dull, dirty weather.



## THE GARDEN GUIDE FOR DECEMBER.

It is at this time of year we can best judge if the gardener thoroughly understands his business. During summer there is such a luxuriant growth that the most carelessly planted crops oftentimes put on an appearance that wins for their possessor much more praise than he deserves; but nature is no longer in such a friendly and lenient mood, and where the work is badly done the aspects of the place will now reveal it. We expect to see in every kitchen garden at this time of year an abundance of winter greens of kinds suitable to keep up the supply till the spring is considerably advanced, and among these plots there ought not to be found a single withered leaf. The ground not under crops we expect to be clean and in ridges as if freshly dug, and, whatever the nature of the soil, we expect a dry hard path to walk upon and a breath of wholesome air to keep us cheerful. If we scent the odour of rotting cabbage stumps and heaps of other such rubbish, we call the gardener a sloven, for he ought to cover all putrefying substances with a few inches of mould to absorb the gases that otherwise escape to poison him and other people. If the place is not clean and tidy, now is the time to make it so by cutting in overgrown fences, rooting up useless trees and shrubs that intercept the light and exhaust the soil, and clearing the soil of all decaying rubbish, both to economize all such stuff for manure and avoid loading the atmosphere with gases that render it destructive to human life. Many a village has been half poisoned by a dahlia grower leaving heaps of green stems on the ground for weeks and weeks to rot, many a gardener has to pay a doctor's bill through making his ground into a brewery of stinks; and at least nine-tenths of diseases in the country arise through the diffusion in the atmosphere of pernicious gases exhaled from stagnant water, foul ditches, and putrefying animal and vegetable substances. "Cleanliness is next to godliness" in the garden quite as much as in the house, and we may be sure that the first of gardeners would not have attained to the age he did unless he had paid more attention to cleanliness than a good many of his successors, who, in the present day, seem to think that dirt is essential to happiness.

**KITCHEN GARDEN.**—Make plantations of rhubarb, seakale, asparagus, and horse-radish. Roots of dandelion, packed together in leaf mould and put into gentle

heat, will furnish a delicate salad in five or six weeks. Paskall's seakale pots are best for the purpose. Keep dung and all soluble matters under cover. Turn over manures, and put aside in heaps to be frozen, rotted leaves, and other materials suitable for potting, and, when well sweetened and pulverized, remove to bins in the potting-shed to keep dry for use. Get sticks and stakes tied up in bundles ready for use; wheel turf and weeds to the muck-pit; get pots washed and sorted over, and crocks sifted into sizes for the potting-bench. This is a good time to make new drains, improve watercourses, and plant hedges. Sow early peas and beans on warm dry slopes; broccoli to be heeled over with their heads to the north.

**FLOWER GARDEN.**—Bulbs ought to be all planted by this time; but, if any remain out of the ground, get them in without delay. Take up tea roses that are in exposed situations, and lay them in by the heels in a shed out of reach of frost. Cut down fuchsias that are to remain out all the winter, and cover their roots with litter or coal-ashes. Pansies, pinks, and other choice things in open beds should have a little light litter sprinkled over them in frosty weather, or be protected with canvas on hoops. Tulips protect in the same way. Look over plants in frames, and take off dead leaves, and keep the plants moderately dry.

**FRUIT GARDEN.**—Dig round old fruit trees, and lay down a layer of old dung, six inches thick, in a ring, three feet round the stem of each, and the size of the fruit will be improved next season. Trees that are sufficiently luxuriant should not have manure. Root-prune any trees that grow too luxuriantly to bear well. Give protection to any tender fruit trees, and lay boards in a slope over vine borders to shelter them from excessive cold rains. Unnail from the walls the younger shoots of tender wall-trees to prevent premature breaking. Let nothing lie in by the heels an hour longer than can be helped. Bush fruits properly taken up and properly planted ought not to miss the move in the slightest degree, but you are sure to lose a whole season if they lie about waiting to be planted. Strawberry beds may be made this month, but it is not a good time to plant strawberries.

*Pelargoniums* to be kept as much as possible without fire, but to dry the house it may be useful occasionally. The fancies need warmth the most.

*Vines* breaking to have a gradual rise of temperature, beginning at an average of 55°, with a rise of 10° during sunshine. As the vines acquire a vigorous growth, raise the heat so as to average 65° by day and 60° at night when they come into bloom. Too sudden a rise will make long joints and weakly growth, independent of the injury to the crop. A warm dry border will do as much as the best management of the temperature of the house.

*Bedding plants* should be looked over occasionally, and the pits and frames emptied and filled again to clear away all dead leaves and insure a good airing. Amateurs have many losses through lack of attention to this work, and mildew makes havoc unseen while there appears to be nothing the matter. Short of actual frost, the more air the better, and if water is wanted, give a good soaking on a fine morning when the barometer is high and steady, so that the balls may get a little dry again before change of weather to wet or frost.

**VERMIN.**—Now that gardeners have a little breathing time is a good opportunity for cleaning frames, lights, and the under sides of stages, and other places where vermin harbour. In the stove there is often great need of such work when there is no time to do it.

*Atriculars* to be kept clean, and to have not a drop more water than will just keep them alive.

*Azaleas* to bloom early, to have very moderate bottom-heat, and be syringed daily. Those still at rest to have a rather dry air.

*Bulbs* to be planted at once if any remain out. Use plenty of sand about them to prevent rotting, as the ground is very wet and cold.

*Camellias* will not stand so much heat as azaleas. As you can get time clean the foliage of specimen plants.

*Carnations* in pits to have as much air as possible, and little or no water. On fine mornings take the lights off. Keep them very clean.

*Cinerarias* will want plenty of air to prevent mildew. Choose bright mornings to water, and get their leaves dry before shutting up. See that specimen plants are in good shape, and peg out the leaves if necessary.

**Forcing.**—Keep asparagus going for succession. Rhubarb, sea-kale, and French beans will soon be in request. Lay a few picked tubers of early potatoes on a warm flue to sprout for planting over dung-heat, and get a bed or two ready.

*Bush fruits* should be planted, potted,

pruned, and manured. Burn the prunings, and if the ashes are not wanted for any particular purpose throw them round the roots of trees; they are powerfully fertilizing. Gooseberries and currants may be lightly forked between to mix the manure with the soil, but raspberries should have three or four inches of dung, not very rotten, laid over the piece, and the soil between them should not be dug at all. Orchard-house trees may be pruned at once, and washed with a solution of eight ounces of Gishurst to a gallon of soft water.

*Azaleas* and *Camellias* claim attention now that we have little else to depend upon to keep the conservatory gay. A little pains now bestowed in training and dis-budding will repay, and *camellias* are so heavily set with buds that, generally speaking, it would be most unwise to allow all to remain. We have seen lately bushels of buds removed in some places where a moderate show of fine flowers is preferred to a mass of indifferent ones, the profusion of which will weaken the plants.

*Bulbs* not yet planted must be got in, and as they are unusually fine this season, purchases may yet be made. We always advise early purchasing and early planting; but if we would ever excuse delay it is now, the stock being in such prime condition that the bloom is sure to be satisfactory, though the after growth may be weak through their remaining out of the ground too long.

*Cucumbers* must be thinned if the plants are more than moderately fruitful, or they will fail to give a succession when the fruit may be most desired.

*Carnations and Picotees.*—The young stocks look amazingly well this season. They require plenty of air and very moderate watering, and be kept clean.

*Cinerarias* and *Calceolarias* for specimens may now want a shift; they must on no account get pot-bound, or they will bloom prematurely. Water on fine mornings, and beware of green-fly and mildew.

*Climbers* in greenhouses may now have special attention to reduce their dimensions. Lay in wood for next summer's bloom, and clear the walls and trellises.

*Evergreen shrubs* planted now must be heavily mulched with dung to keep frost from their roots.

*Pelargoniums* to be cautiously watered and allowed to rest. Specimens may be tied out, and stock struck late may be shifted and kept growing.

*Roses* may be planted now during dry weather; the ground to be in good heart, deeply trenched, and well manured. On

loamy land broken up from grass roses do better than in ordinary garden soil, and those who grow for show should either use turf liberally or break up meadow ground for their best plants. Get in briars quickly before the best are gone. Manettis layered during summer may now be divided and planted out in rows for budding next season.

*Rhubarb and Seakale* put in to force.

We object to the usual plan of blanching rhubarb as spoiling it; unless it is acid it is worthless, and the blanching system as followed for the markets only produces a mass of vegetable pulp without beauty or flavour.

*Forced Peas and Beans.*—Tom Thumb is the best of all peas for forcing; sown now and grown in pots with French beans it will give a good return. Those who force for Covent Garden sow in October and November. This pea is of dwarf branching habit, and of very little use for out-door work, being tender in constitution.

#### GREENHOUSE AND CONSERVATORY.—

Chrysanthemums will keep the houses gay till after Christmas, when the first lot of forced shrubs, especially azaleas, will come in to take their place. In the conservatory whatever flowers are at command may be made the most of by judiciously intermixing with them good plants of *Yucca*, *Acacia lophantha*, camellias, and others possessing characteristic foliage. Hard-wooded plants in the greenhouse must have as much air as the weather will allow and as little water as possible, as we may soon expect severe frosts. The thermometer should not descend below 38°. Soft-wooded plants will be subject to mildew if the house is at all damp, and must have fire-heat during foggy as well as during frosty weather. Shift any specimen plants that are in need of increased root-room. Peaches to fruit early must be frequently syringed, and have as little fire-heat as possible, but the heat may be allowed to rise, with plenty of ventilation, during sunshine. *Ericas* must have air at every opportunity, and, if forced with other flowering shrubs, must have the coolest place in the forcing pit, and be very gently stimulated. Greenhouse temperature 40° to 45°.

**STOVE.**—We suppose the cultivator to be able now to furnish the conservatory with showy specimens of *Euphorbia Jacquiniiflora*, *Poinsettia pulcherrima*, *Gesnera zebrina*, *Begonias*, *Luculias*, *Camellias*, etc., etc., from the stove. But there must be a succession, and one of the first things to consider now is how to make the stove

available, not only for the preservation of its ordinary inmates, but to forward furnishing plants for other structures. *Plumbago capensis*, *Cytisuses*, *Azaleas*, and *Camellias* should therefore be introduced at the coolest end of the stove, if there is room for them; a few roses may be forced with them, and many ornamental-foliaged subjects will be found useful if in a clean and healthy state. Mixed stove selections must now be kept rather cool, as growth is not desirable. Keep the atmosphere of the house sweet by giving air on fine days, and be careful to remove dead leaves, mosses, and liverworts in pots, and whatever impedes the circulation of air or engenders unwholesome vapours. All plants approaching a state of repose to have little or no water. Plants in active growth must be watered with caution; let them have enough, but see that they do not stand in pans with stagnant water about their roots, or in wet places in the midst of mildew. Temperature of stove 50° by night, 60° by day, with a rise of 10° during sunshine.

**ORCHID-HOUSE.**—In collections where there are now only a few orchids in a growing state, the forcing-pit may be turned to account to receive them, so as to allow of the cooling down of the orchid-house, and securing thereby a complete state of repose for the plants, which is scarcely possible if there happen to be a few fine specimens pushing into bloom or in an active state of growth. It is at this time of year we see the full value of divisions which can be respectively devoted to orchids from different climates and requiring now different temperatures. Orchids at rest to be kept comparatively cool and dry; 50° by night and 60° by day will be sufficient. Variegated orchids must have very little water now, and, if in a warm house, will do better without than with bell-glasses; they are indeed generally kept too close. Rot and spot are diseases peculiar to this season, and are the result of too much moisture in the house or of drip from the glass.

*Orchids that may be in bloom in December.*—*Angræcum bilobum*, *eburneum*, *eburneum superbum*, *sesquipedale*; *Arphophyllum spicatum*; *Barkeria elegans* and *Skinneri*; *Bletia Shepherdii*; *Brassavola Digbyana*; *Burlingtonia amoena*; *Calanthe vestita rubra oculata*; *Cattleya maxima*; *Warscewiczii*; *Cælogyne Gardneriana*, *media*; *Cymbidium giganteum*, *Mastersii*; *Cypripedium insigne*, *insigne Maulei*, *purpuratum*; *Dendrobium album*, *monilloforme*; *Dendrochilum glumaceum*; *Epidendrum vitellinum*; *Grammatophyllum speciosum*; *Lælia acuminata*, *albida*, *anceps*, *Maryanii*,

peduncularis; *Leptotes bicolor*; *Lycaste Deppeii*, *Skinneri*, *Skinneri alba*; *Miltonia Karwinski*; *Odontoglossum maculatum*, *membranaceum*; *Oncidium Barkerii*, *bicallosum*, *Cavendishii*, *incurvum*; *ungui-*

*culatum*; *Phajus grandifolius*; *Schomburgkia crispa*; *Sophronites cernua*, *grandiflora*, *violacea*; *Zygopetalum brachypetalum*, *Mackayii*.

## TO CORRESPONDENTS.

**CATALOGUES RECEIVED.**—"George Smith, Tollington Nursery, Hornsey Road, London, N. Catalogue of *Pelargoniums*, *Fuchsias*, *Petunias*, *Dahlias*, etc." Mr. Smith has acquired a deserved celebrity by the numerous superb *fuchsias* he has introduced to the horticultural world, and the list will be found particularly rich in that department, although it is excellent in all other respects, the plants being faithfully described.—"Eugene Verdier, 6, Rue des Tris Ormes, Boulevard de la Gare d'Ivry, xiii<sup>e</sup> Arrondissement, Paris. Catalogue of *Gladiolus* and *New Roses*." M. Verdier's name is sufficient guarantee that the varieties he recommends are worthy the consideration of the lovers of these charming flowers.—"Supplement au Catalogue General des Plantes." This list contains a large number of new roses and *gladiolus*.—"Pridham and Sanders, College Grounds, North End, and Sion Nursery, White Horse Road, Croydon. Descriptive Catalogue of Ornamental and Flowering Trees, Evergreens, Flowering Shrubs, etc." Evidently prepared with great care to suit the requirements of those amateurs who occupy villa gardens. The selections of *Roses* are first-rate, and the same may be said of the climbers.—"Holland and Bayley, Bradshaw Gardens, Chadderton, near Manchester. Descriptive Catalogue of *Carnations*, *Picotees*, *Pansies*, *Pinks*, *Auriculas*, etc." A first-rate list of florists' flowers, all of them divided into sections and classes, according to the manner in which they are exhibited. "Adam Forsyth, Rectory Road, Stoke Newington, N. Descriptive Catalogue of *Chrysanthemums* for 1864." A very complete and neatly got up list, containing all the best sorts now in cultivation.

**CHAUMONTEL PEAR FAILING.**—I have two fine trees of the Chaumontel pear against a wall with a western aspect, which have heretofore borne a great quantity of fine healthy fruit; but for the last three or four years the fruit begins to have black spots on the greater part about a month before it is fit to gather. The soil is of a rich clay, loamy character. It is well

drained. Will you kindly give me your best advice what had better be done to correct it?—*A. P.* [We are afraid the roots of these trees have lately found their way into some cold ungenial soil, and they are probably too large to lift and replant on platforms. Probably root-pruning will be the only effectual remedy. But we should be inclined to remove all the surface soil from their roots, lay the top roots bare without injuring the fibres, and then fill in with fresh soil, consisting chiefly of turfy loam, with about a fourth part of rotten dung added. This will cause a plentiful growth of surface fibres, and, if the trees are simply poor, will quite restore them; and, if getting diseased through pushing their roots into a bad soil, will do something to recover them.]

**CASSIA CORYMBOSA.**—Captain Boardman has been a constant subscriber to the *FLORAL WORLD* for many years, which induces him to trouble the Editor with the request that he will kindly tell him the name of the inclosed shrub, which has been three years in the open ground against an east wall. It is now in full bloom, and spreads a space of many feet. Any information as to the culture, soil, etc., etc., most desirable for this beautiful plant will greatly oblige. [The plant is *Cassia corymbosa*, a valuable subject for late summer and autumn decoration, either for pots or the open ground, as it continues to produce its large axillary trusses of rich orange blossoms far into the winter. Cuttings taken very early in January or February, inserted in silver sand, and placed in a gentle warmth under a bell-glass, will root in two or three weeks, and with liberal treatment will make fine plants for the decoration of the conservatory throughout the autumn or for beds in the open ground. It usually requires the protection of the greenhouse through the winter months. We have not heard before of its remaining out of doors all the winter. Does it do so without protection? *Cassia corymbosa* has been much used this season as a bedder in Paris and with very great success.]

### BEGONIAS AND COLEUS IN GREENHOUSE.—

*R. G. Gretton.*—By means of great care, especially in administering water, these plants may be wintered in houses that are only enough heated to keep out frost. But it is not at all a satisfactory way of managing them. They are generally very dilapidated before the return of spring, and some losses may happen through damp. The fact is, both begonias and coleuses ought to be always moist at the root, and this condition requires enough warmth to keep them just moving and to prevent mildew. In a house so heated as to be never cooler than 40° all winter they may be kept without difficulty, and then should be kept nearly as dry as geraniums. But to do them justice they ought to have an average temperature of 50° all winter. *Coleus Verschaffelti* never need be kept by those who have not much glass room, because plants can be purchased in spring, at a cheap rate, and, by a little promptitude in propagating, a large stock may soon be got up by the aid of a good dung bed. It is one of the easiest things known to strike quickly from side-shoots one to two inches long.

### RENOVATING OLD GOOSEBERRY TREES.—

*S. C. M.*—Gooseberry trees may be moved at any age, if done with care and early in the season. Some of them may lose a branch or two in consequence, and the next summer the fruit will be small. To renovate the trees, cut out a few of the leading branches to the base, and at the same time manure the roots liberally. We should cut back severely one season and transplant the next. In the meantime it would be well to cut a trench half round every tree at fifteen inches from the stem and two feet deep, and fill it with fresh rich soil. This will cause the formation of new roots on one side of all the trees, which will be a great help the next season in the moving. Another important step with a view to the future should also be taken now, and that is to put in a lot of cuttings so as to get up a stock of young trees, and allow of the destruction of the old ones if they refuse to be renewed.

**SILENE PENDULA.**—Having seen a bed of *Silene pendula* in full flower last season, and being desirous of having a bed another season, I sowed a quantity of seed in August, but got only about thirty plants, and lately have sown twice again, but they do not come up well. Is there any peculiarity about the mode of growing

them; they are very hardy I understand; please say, and oblige, *V.* [The *Silenes* are all hardy, but make a much better show in the garden when treated with a little of the care bestowed upon tender annuals. *S. pendula* is a native of Sicily, where, when growing wild, the seeds have the aid of more warmth in germinating than they can have in our gardens in spring or autumn. We advise *V.* to sow *S. pendula* in pans in February, and place the pans in a cold frame; when the seedlings are large enough to handle, prick them out an inch and a half apart, in pans filled with light rich soil, and keep them under glass till they begin to get crowded, then plant them where they are to bloom. The old *Silene armeria* is one of the prettiest annuals we possess.]

### PTERIS SCABERULA WILD IN SCOTLAND.—

Inclosed is the frond of a fern found upon the Gildon Hills in Roxburghshire, which as yet has not been named by any one who has seen it. Can you tell us what it is? One gentleman declares it to be "*Pteris scaberula*," which I think it certainly is *not*, and how could it have been found where this one was? There has been only one plant found, which is now in the fern-house at Floors Castle, near Kelso, and makes a beautiful specimen for pot culture, the light feathery foliage being unlike most British ferns. We are at present reading several volumes of the *FLORAL WORLD*, and deriving much pleasure and profit therefrom; "*Rustic Adornments*" has long been a standing favourite here, so that I scarcely feel as if addressing a stranger to-day.—*Isabella Bruce, Slogarie, Lawriestown, Castle Douglas.* [We were not in doubt one moment as to the name of the fern sent. It is our old friend *Pteris scaberula* in a somewhat attenuated form, as if it had grown in rather a dark place. Our correspondent will, perhaps, be startled when we say that we doubt if it was found growing wild anywhere in Britain. We were once conversing with Mr. Sim on curious fern findings, and he said, "I frequently have stove and greenhouse ferns sent to me as having been found growing wild out of door." If any evidence of the actual finding of this fern can be furnished us, we will gladly publish it; if the find can be authenticated, it will be a most interesting affair.]

**VINES IN POTS.**—I have got some young vines in nine-inch pots, two years old this winter, and I do not know whether to give them vinery or greenhouse treat-

ment in spring, as I should like to fruit them in pots. If you will be kind enough to tell me how to treat them from the first (how to prune, etc.), you will oblige, *J. W.* [We ought to know more about the state of these vines in order to advise our friend with a fair prospect of "hitting the nail on the head." After two years' growth pot vines may be either in the form of long canes or dwarf bushes. If they were cut back to two buds at the end of the first season, and one of these only allowed to grow, they are now probably six or seven feet high, the canes strong and well-ripened, and from top to bottom furnished with plump buds, from which fruit may be expected. We will suppose them to be in this case. We should now shift them into fifteen-inch pots, and at the same time cut them back to within nine buds of the base. Whether they go to vinery or greenhouse must depend upon the sorts grown, and whether the grapes are wanted early or late. That point the cultivator must settle for himself. But to manage them with a view to make them handsome and fruitful bushes we would allow only four bunches the first season, and take these four from the four top buds, stopping one point beyond the bunch, and the other buds to be stopped when four inches long. As soon as the bunches are firmly set, give strong manure water once a week till they begin to change colour, say one pound of guano to twenty gallons of water. At the end of the season these vines will have strong stems and four spurs each, which must be cut back to the fourth or fifth bud from the stem, and then only two buds are to be left on each, namely, one at the end to give a bunch, and one at the base to give a new shoot for one next season. Another way to fruit these would be to cut them back very slightly, to drop the pots the vines are now in into larger pots or tubs, and fill the space between them with half dung and half loam, let them ripen all their bunches, and then destroy the vines.]

**WINDOW GARDENER.**—Your letter came after the pages were filled; but we make room to advise you to procure a supply of cocoa-nut fibre refuse, which will make you independent of the nurserymen who refuse to sell you a bit of compost. Mix the refuse with the loam in the proportion of half and half, and your bulb will grow nicely. Instead of crumbling the mould off the turves, you take out of the skylark's cage, put the

turves in an oven long enough to kill the grass, and then use fibre and loam together.

**VARIOUS.**—*T. P. P.*—Your plant is Golden Rod, *Solidago Virgaurea*.—*Rocklands*.—Clipped furze is generally very effectual in keeping mice from bulbs; some gardeners use powdered rosin for the same purpose, and we believe with good effect.—*F. L.*—*Phlox Drummondii*.—*Subscriber, Bedford*.—*Onosma echinoides*.—*F. E., Dublin*.—Your ferns are, 1, *Polypodium scolopendroides*; 2, *Platyloma rotundifolia*; 3, *Polystichum angulare multifidum*; 4, *Todea pellucida*. We cannot make room now to give the native places of these and the others.—*A. B.*—If the leaders of the distaffs push too hard to be kept back by pinching, let them grow to the end of the season, and then shorten back with the knife. Any soil will suit Virginian creepers. We saw a splendid specimen lately growing in a heap of slag and ashes from a foundry.—*J. Symon*.—We will name your ferns next month. We have not time now to disentangle the confused heap of greenstuff you have so kindly crushed into an envelope for us.—*Subscriber*.—We suppose by "mountain heaths" you mean such things as British *Ericas*; if so, you may cut them down as soon as the best of their bloom is over; if they were mown down, it would not much interfere with the next year's bloom, if done as soon as they first begin to get shabby.—*W. R.*—You may defer planting the trees till spring, as the ground is not yet drained. Your strawberries ought to do well after such a preparation of the soil. We know of no better edging for kitchen-garden walks than some sort of cheap tile, to be found at the nearest pottery, or bricks put in diagonally, thus *III*. If you follow Mr. Cuthill's plan, you need not manure your straw berries now.—Your letter came to hand after the pages were all filled: reply next month.—*Folly*.—Your letter on Greenhouse came to our hands on the 23rd, too late to make room for reply, as it cannot be disposed of in a word.—*Susser*.—We cannot advise without knowing the size of the house; perhaps one of Carman's stoves might answer.—*T. Colson*.—The yellowish-green leaf is *Gardenia angustifolia*; the *Cyclamen* is European in its ordinary form; the *Eriostemon*-like plant we do not know.—*Old Sub*.—The number was almost printed before your letter came.











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